

第4章 結論・提言

1. 協力内容のスクリーニング

(1) 道路ネットワーク上の位置づけ・期待される機能

要請道路地域は、始点キブンゴで国道 3 号線・キガールスモ道路と、終点ラミロでキガリーネンバ道路の2舗装国道道路と連結し、経済首都圏であるキガリと舗装道路で連結する。これにより、東南部環状道路を形成するものだが、ネットワーク化により、どのような物流体系が構築されるのか(志向するのか)についてル国は明確な構想を持っていない。同国の幹線道路網については、首都キガリと地方都市を結ぶ放射状の整備が行われ、地方都市間を結ぶ道路の整備はこれからの状況と見られる。今回の対象道路は、地方都市間を結ぶ道路であるが、何故この区間の整備が重要なのか根拠が不明である。

(2) 地域開発との関連

沿線では主にバナナ、キャッサバ、豆、イモ類等の自給自足型の農業が行われており、コーヒーやパームオイル等の換金作物の栽培は非常に限られている。現時点では、耕作可能な土地のうち約 50%しか耕作されておらず、今後開発されていく可能性はある。しかしながら、開発計画はいずれも具体的なものとはなっておらず、地域・農業開発において要請道路に期待される機能、その位置づけは不明である。

(3) 交通需要

交通量調査によるとキブンゴ側で 1,095 台/日、ラミロ側で 55 台/日であった。キブンゴ側(キブンゴよりおおよそ 7.5Km 区間)では交通量は多いが、それ以外の場所では交通量は少ない。

国際物流による交通量増を誘引する要素は、予備調査においては確認できず、経済成長率や対象道路舗装化による発生交通、キガールスモ道路からの転換交通等の予測を元にした需要予測では、ラミロ側の予測交通量は 2010 年で 296 台、2019 年で 499 台と、1 車線道路で対応可能な交通量となっている。

(4) ザザ経由ルートの検討

ザザ経由ルートに比較して、既存国道ルートの方が交通量が多く、延長も短い。

ザザには教会、学校や病院が存在するものの、歴史的な町であり、並木道も含めて静寂性の確保を考慮しなければならず、大型車両が中高速で走行する幹線道路としての整備は避けるべきと考えられる。

よって、本プロジェクトを実施する場合には、既存国道ルートを整備すべきと考えられる。

(5) 橋梁

対象道路上にある 3 橋梁はいずれも老朽化が進んでいるが、構造的にはすぐに架け替えが必要な状態とはなっていない。また、橋梁が位置するガシヨラバレーにおいて堤防建設が進んでい

るため、橋梁の位置・規模・仕様決定のためには、今後数年間のモニタリングを含めた水文調査が必要となる。

(6) 環境社会配慮

対象道路全線を要請どおりの2車線整備した場合、最大で292軒程度の住民移転が必要である。この問題への対応については、EIAの手続きの一環としてRAP(住民移転計画)を本プロジェクトに関係する地方行政機関と協議して策定する必要があるが、プロジェクトによる環境・社会への影響(特に家屋移転)を最小にするとともに道路整備の必要性を考慮し、適切な道路幅員・計画内容を検討する必要がある。

多数の住民移転が発生する可能性は高いが、環境ガイドラインが策定中であるなど関連する制度が未整備であるため、今回の調査結果を踏まえ環境社会配慮上の検討を慎重に行い、基本設計調査実施の条件を整理することが先決である。

(7) 要請プロジェクトの妥当性

本件を実施する場合、対象区間の大部分を1車線としても道路部分だけで16～17億円程度、橋梁整備を含めると、26～27億円の事業費が必要になる。対象道路は地方都市間を結ぶ国道であるが、予備調査においては、上記の通り、対象道路整備の必要性、整備効果の観点から、これだけの事業費に見合うだけの妥当性を説明できる根拠が整わなかった。なお、BADEAのF/Sにおいても、キブンゴーガソロ区間(130.5km)を車道6m、路肩1.5m×2を簡易舗装(DBST)で整備した場合の経済的内部収益率(EIRR)が、交通量の伸びが6%(Medium Case)の場合でも12%以下となっており、必ずしもフィージブルであるとは言えない結論となっている。

現在、BADEAなどの支援の下、キガリーネンバ道路が建設中である。本件対象道路はラミロにおいてキガリーネンバ道路と接続し、キガリールスモ道路とともに環状道路を形成する。次のステップに移るには、①現在建設中のキガリーネンバ道路の完成による交通需要の伸び、②それに伴う対象道路沿線の経済活動の活性化(自給農業から換金作物栽培への転換、農産物等の物流の活性化など)が観察され、本道路区間の整備の緊急性や必要性が確認できることが必要である。

2. 基本設計における留意点

本件に関して基本設計調査を実施する場合の留意点は以下の通り。

(1) 道路

1) 設計基準

道路の設計基準については「ル」国には、基準や関連法規が存在しないため、F/S ではケニア地方道路設計マニュアル、タンザニア道路・橋梁マニュアルを適用して、道路断面を設定している。F/S に示される道路断面・仕様を要請道路の全区間に適用すると、150 戸程度の住居移転が発生する。

設計速度は、F/S 報告書にあるとおり、40km/hr～80km/hr の範囲で地形に応じて変化させており、柔軟な対応が可能である。

設計の基本となる将来交通量は、キブング側の 7.5km 区間については、1,000～2,000 台と比較的多いが、残り 45.5km については、500 台未満と予測される。ケニア地方道路設計マニュアルでは日交通量 500 台未満は、砂利舗装となっている。また、キブング側 7.5km 区間の交通は、キガリにはラミロを通過して以西の要請道路を経由するよりもキブングを通過して国道 3 号線を経由する方が短距離である。

2) 舗装幅

住居移転の削減と合理的なコスト縮減を図るために、必ずしも全線を 2 車線で整備するのではなく、ところどころに対向車すれ違いのための待避所を設けた 1 車線道路 (1.5 車線の整備) を検討する必要がある。「ル」国では今後 750km の舗装化が検討されているが、対象となる未舗装国道は交通量が少なく急峻な地形にあるため、既存の道路仕様を適用させると事業費の高騰を招き投資効果が極めて低くなることが予想される。

3) 2 車線区間の線形の精査

キブング側始点から約 7.5km の区間は交通量も多く、2 車線整備が妥当と判断される。この区間の ROW 内には約 30 戸の住宅等の家屋があるので、線形を精査して移転家屋数を最小とする。なお、始点から約 1km は急崖地にあり、移転家屋を避けての拡幅には急斜面上の擁壁等構造物が必要であり、家屋移転と構造の安定を比較して、線形を決定する必要がある。

4) 1 車線区間の線形の精査と構造計画

1 車線で移転戸数を最小にするためには、現道に擦り付けた線形が必要である。特に、20km～25km の区間は、山越えで民家が近接するので、縦断線形を含めた精査と施工計画が必要である。また、地形が複雑な箇所は、視距を考慮して待避所や路肩の簡易舗装化等の構造を導入して大型車通行の安全性を確保する必要があるため、家屋の移転が余儀なくされる可能性もある。これを避けるためには、曲線部での片勾配の適用が推奨される。

5) ガショラバレー堤体道路

ガショラバレー内の堤体道路は、軟弱地盤上に位置するため盛土による沈下の影響が最小になるよう計画する必要がある。また、F/S では既存道路の線形と幅員に合わせた舗装を行う計画としている。したがって、盛土幅が狭い区間を拡幅する場合、既存の盛土上に舗装部(車線)を設け路肩を新設盛土上に設ける等の考慮が推奨される。

6) 自然条件調査について

BADEA による F/S においても測量、CBR 試験の土質試験が実施されているが、全長 130km 区間に対して F/S レベルで実施したものであり、地形図は、1/5,000 で5mコンタ、CBR は、約 5km 間隔でしかない。基本設計調査に際しては 53km 区間に対して以下のような、事項を踏まえて必要な精度で自然条件調査を実施することが望ましい。

① 測量

測量の仕様

項目	仕様	摘要
地形測量	延長 53km、片側 50m、コンタ 間隔1m	基準点間隔 2km 内
中心線測量	20m 間隔で適宜補完(平面、 縦断共)	計画線形に対して実施
横断測量	20m 間隔で適宜補完	

出力は、AutoCAD 等に対応

② 土質試験等

F/S の段階では、約 5km 間隔の 11 箇所 CBR 試験が実施されており(Annex IV-C)、概査として利用可能であるが、舗装の設計には一般的に最小でも 100m 間隔が必要である。延長が長い場合数多くの試験が必要となるが、KIST、National Laboratory やブタレ大学等の試験施設の試験機器や試験員に限界があるため、対応には、技術員の派遣や試験機器の近隣諸国からの調達が必要が生じることも懸念される。

路盤材料やアスファルトコンクリートの骨材としては、F/S に記載の延長 53.5km の地点(ネンバ付近)から 5.3km にある HS3 の材料が利用可能である。また、キブンゴ側にはカヨンザールスモ道路で用いた骨材サイトがあり、試験は、この 2 箇所が計画される。

盛土材料としては、切土区間のラテライトを使用するのが最も経済的となる。ラテライトの種類(粒度分布と含水比)によっては、下層路盤への利用も可能であると考えられるので、コストダウンのために、土取場となり得る未利用地の材料試験を 5 箇所程度、行うことが望ましい。

③ 構造物ボーリング

本計画内容には橋梁が含めないのが基本である。既存データとしては、ガショラ第2橋のボーリングデータをインフラ省が保有している。ガショラバレー内の堤体道路の拡幅に際しては、現況盛土上に舗装を設ければ、既存のボーリングデータで盛土の安定検討が可能であるので、ガショラ第4橋他の構造物設計まで構造物ボーリングの必要性は殆どない。

(2) 橋梁

1) 橋梁設計基準

ルワンダ国において橋梁の設計基準や施工方法の基準等は整備しておらず他ドナーのプロジェクトでは、各々の基準を適用している。よって本プロジェクトにおいても現地条件を検討したうえで規準を提案することが可能である。

2) ニャバロンゴ川ダム建設

ガショラ4号橋の上流 7km区間において、ニャバロンゴ川の氾濫抑制と安定した農耕地の有効活用を目的として堤防道路が建設中であり、各橋梁の高水計画流量に影響を与える恐れがある。よって建設後の水文データを収集・解析し、橋梁規模の計画を検討する必要がある。

3) 調達事情

「ル」国での資材の調達事情として、骨材や木材は可能である。セメントは生産量が限定され、かつPC桁のような高強度コンクリートの使用には適さないとされておりウガンダやケニア等の周辺国からの調達となる。鉄筋、鋼材、PCケーブル等はヨーロッパを中心に周辺国からの調達となる。

橋梁建設用の架設材、大型クレーンや掘削機等の特殊機械は、ヨーロッパからが多い。

基本設計調査では、工費縮減のために調達事情を含めた施工計画が必要となる。

4) 建設コスト

橋梁の建設工事は、極限られており橋梁専門技術者が少なく、主要資材・施工機械の調達もヨーロッパ等からとなるために、その建設単価は高くなる傾向にある。対象橋梁の周辺地盤データより支持層が 50m以上の深さとなることが想定されるため杭基礎工事単価についてもコスト高となることが想定される。

建設単価として他ドナーによる最近の橋梁計画および橋梁建設している 3 案件を参考にし、建設費を橋面積あたりの単価として算出すると 67 万円～105 万円/(橋面積 m²)程度となる。

(3) 環境社会配慮

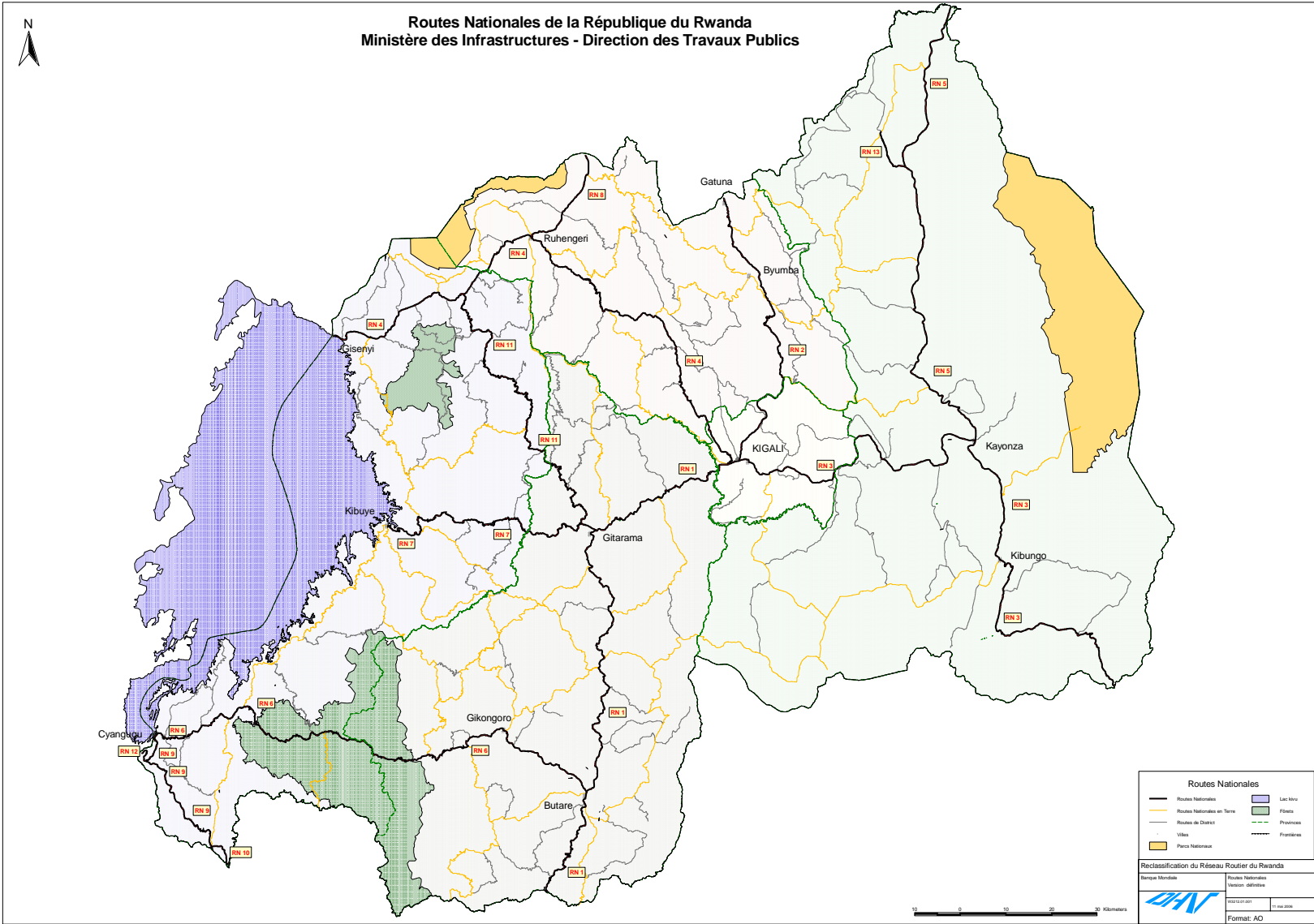
本プロジェクトで最も大きい問題は社会環境における住民移転である。全線を要請どおりの 2 車線整備した場合、最大で 292 軒程度の住民移転が必要である。

この問題への対応については、EIA の手続きの一環として RAP (住民移転計画) を本プロジェクトに関係する地方行政機関と協議して策定する必要があるが、プロジェクトによる環境・社会への影響(特に家屋移転)を最小にするとともに道路整備の必要性を考慮し、適切な道路幅員・計画内容を検討する必要がある。

いずれにしても、多数の住民移転が発生する可能性は高いが、環境ガイドラインは策定中であるなど関連する制度が未整備であるため、今回の調査結果を踏まえ環境社会配慮上の検討を慎重に行い、基本設計調査実施の条件を整理することが先決である。

さらに、「被害と便益の分配や開発プロセスにおける公平性」「地域における利害の対立」「HIV/AIDS 等の感染症」「交通事故の増加」「土壌流亡」の影響要素についても留意すべき内容を踏まえた調査を実施する必要がある。

資料編

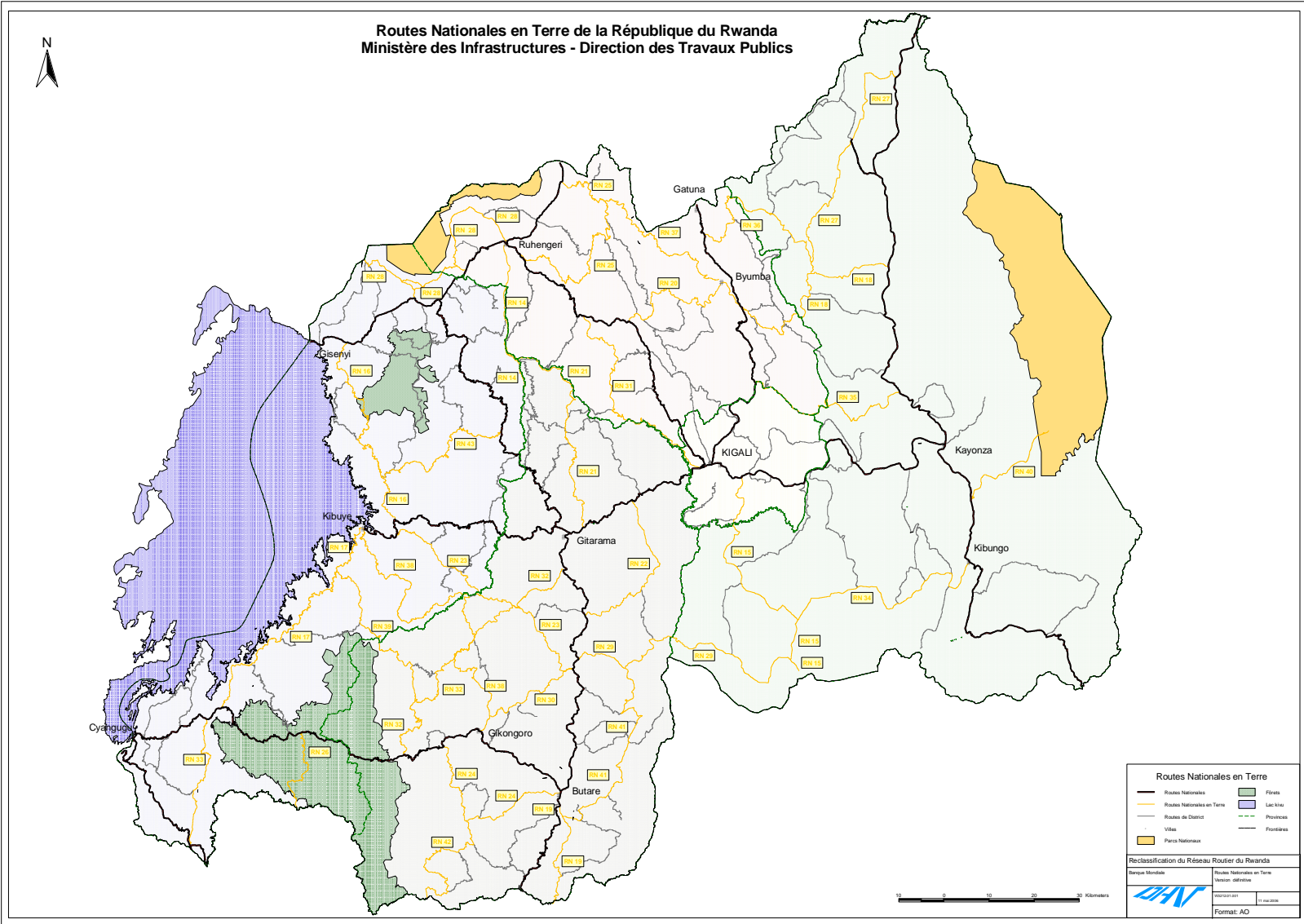


舗装国道図

舗装国道一覧表

RN	Nom de la route	PK 00	Length (km)	Width (m)	Condition
1	Kigali-Butaré-Akanyaru	Rond point central, Kigali	157.030	9 et 7	Très bon
2	Kigali - Gatuna	Rond point central, Kigali	77.695	9 et 7	Passable
3	Kigali-Kayonza-Rusumo	Rond point central, Kigali	166.131	8 et 6	Bon
4	Kigali- Ruhengeri-Gisenyi	PK 5,120 RN1 : Kigali	149.639	8 et 6	Médiocre
5	Kayonza-Kagitumba-Frontière Ouganda	PK 74,809 RN3: Rond Point Kayonza	116.336	6.70	Passable
6	Butaré-Cyangugu-Risizi I	PK123,644 RN1 : IC Butare	145.302	6.70	Médiocre
7	Gitarama-Kibuyé	PK47,121 RN1 : Gitarama	77.191	8 et 6	Bon
8	Ruhengéri-Cyanika	PK 87,972 RN3 : Intersection Ruhengeri	25.237	6.00	Rehab. en cours
9	Cyangugu-Bugarama	PK144,830 RN6 : IR Cyangugu	38.387	6.00	Rehab. en cours
10	Bugarama-Ruhwa	PK37,500 RN9: IR Bugarama	7.512	5.90	Médiocre
11	Gitarama - Ngororero - Mukamira	PK 3,690 RN7 : Gitarama	98.622	6.50	Médiocre
12	Cyangugu-Risizi II	PK 6,630 RN9 : Cyangugu	4.563	6.00	Très bon
13	Ryabega-Nyagatare	PK 75,596 RN5 : Ryabega	11.091	6.00	Passable

車道(舗装)幅は、殆どが 6.0m 以上 (RN10 のみ 5.90m) で整備されている。



未舗装国道一覧表 (NO. 14 ~28)

N°	Nom de la route	PK 00	PK FIN	Length (km)	Width (m)	Condition
RN 14	Ruhengeri-Gataba	PK 87,920 RN4 : IR Ruhengeri	Au PK 36,923: route coupée (rivière avant Nyirakigali)	36.923	8 et 6	Très Mauvais
RN 15	Kigali - Nyamata - Nemba	PK 6,320 RN3 : Kigali (Kicukiro)	Au PK 61,103 : route coupée (vers Fr. Burundi)	61.103	5	Très Mauvais
RN 16	Rubengera - Pfunda	PK 61,270 RN7 : Rubengera	PK 139,200 RN4 : Pfunda	80.652	6.5	Passable
RN 17	Kibuye-Ntendezi	PK 77,190 RN 7: Rond Point Centre Kibuye	PK 114,920 RN6 : Buhinga	92.986	4.5	Très Mauvais
RN 18	Byumba - Gabiro	Centre Byumba	PK 53,540 RN5 : Gabiro	69.978	5	Passable
RN 19	Butaré - Akanyaru (Bas)	PK 127,100 RN1	PK 29,543 : Frontière Burundi	29.543	5.5	Mediocre
RN 20	Byumba - Base	Centre Byumba	PK 43,940 RN 4 : Base	45.639	4.5	Mediocre
RN 21	Cyakabili - Nyabikenke - Ndusu	PK 43,320 RN1 : Cyakabili	Au PK 70,436 : route coupée (Ndusu)	70.436	5.5	Mauvais
RN 22	Rugobagoba - kinazi - Ruhango	PK 27,610 RN1 : Rugobagoba	PK 73,070 RN1 : Ruhango	44.811	6.5	Passable
RN 23	Nyanza-Kibuye	PK 2,229 RN 30 : Kavumu	PK 66,050 RN7 : Nyagasozi	68.834	6.5	Très Mauvais
RN 24	Butare - Kibeho - Muse	PK 123,960 RN1 : Butare	PK 38,170 RN6 : Muse	52.753	7	Passable
RN 25	Kidaho - Kirambo - Kiryi	PK 20,820 RN8 : Kidaho	PK 83,660 RN4: Kiryi	85.955	4	Passable
RN 26	Pindura - Bweyeye	PK 85,700 RN6 : Pindura	PK 31,780 : Poste Militaire Bugarama	31.780	4	Très Mauvais
RN 27	Nyagasa - Ntoma	PK 49,480 RN18 : Nyagasa	PK 100,090 RN5 : Ntoma	63.678	5	Passable
RN 28	Ruhengeri-Busogo-K ora-Kabuhanga	PK 0,700 RN8 : Ruhengeri	PK 63,194 : Frontière RDC	63.194	6	Mediocre

未舗装国道一覧表 (NO. 29~43)

RN	Nom de la route	PK 00	PK FIN	Length (km)	Width (m)	Condition
29	Kibugabuga – Nyamiyaga– Gasoro	PK 57,840 RN15 : Kibugabuga	PK 86,130 RN1: Gasoro	68.239	4	Mediocre
30	Nyanza – Gikongoro	PK 86,730 RN1 : Bigega	PK 26,440 RN6: Gikonkoro	33.789	4	Mediocre
31	Kigali – Rushashi – Gakenke	PK 0,240 RN1 : Giticyinyoni	PK 56,690 RN4 : Gakenke	67.648	5	Tres Mauvais
32	Byimana – Kitabi	PK 58,480 RN1 : Kirengeri	PK 52,490 RN6 : Kitabi	98.897	4	Mauvais
33	Ntendezi – Mashyuza – Bugarama	PK 120,340 RN6	PK 0,000 RN10 : IR Bugarama	37.368	3	Mediocre
34	Kagasa – Kibungo	PK 48,550 RN15 Ramiro	PK106,460 RN3 : Rond Point Kibungo	56.552	4	Mediocre
35	Rwesero – Gakenke	PK 26,540 RN2 : Cyamutara	PK 19,730 RN5 : Gakenke	51.309	5	Mauvais
36	Ngarama – Mulindi	PK 3,170 RN27 : Ngarama	PK 69,630 RN2 : Maya	53.513	4	Passable
37	Byumba – Butaro	Centre : Byumba	PK 23,670 RN25 : Butaro	50.657	4	Mediocre
38	Kibuyé – Cyanika	PK 77,190 RN 7	PK 29,060 RN 30: Cyanika	116.829	6	Tres Mauvais
39	Gishyita – Gatovu	PK 21,120 RN17 : Gishyita	PK 71,200 RN32 : Gitovu	53.752	5	Mauvais
40	Kabarondo – Hôtel Akagera	PK 91,045 RN3 : Kabarondo	PK 29,167 Hôtel Akagera	29.167	5	Mediocre
41	Butare – Nyamiyaga	PK2,66 RN 19 : Butare	PK 54,850 RN 29 : Nyamiyaga	60.814	5	Mauvais
42	Kibeho – Ndago – Munini – Bitare	PK 27,700 RN24 : Kibeho	PK 50,586 : Frontière Burundi	50.586	7	Bon
43	Rutsiro – Gatare – Kazabe	PK17,130 RN16 : Centre Rutsiro	PK 42,530 RN11 : Kazabe	57.45	4	Mauvais
	Total			1,785		(km)

要請道路 RN34 は、延長 56.5km、道路幅 4.0m(最小)である。

資料2 橋梁調査

(1) ガショラ1号橋

橋梁調査表

2006年9月23日

橋梁名	ガショラ橋1号橋 (Gashora 1)		路線名、路線種別	国道34号線	
橋梁所在地	ガショラ(Gashora)		距離標、建設年	道路始点(ラミロ)から7.34km	
橋長	24.9m		総幅員	5.1m	
支間長			車道幅	3.7m	
径間数	1径間		歩道地幅		
平面縮尺形状	90°		車線数	1車線	
交通現況	大型車混入度	小、公共交通公社バス路線	架橋位置状況	周辺用地現況	湿地帯の西側縁端部
	普通車輛	小		上流部台道現況	民家なし、バナナ等の農耕地
	バイク、自転車	小		下流部台道現況	民家なし、近隣に農耕地あり
	歩行者	小		キブンゴ側道路	2車線、湿地帯内の横断道路
交通規制	荷重	記載なし	河川状況	ラミロ側道路	2車線、ラミロ側に向かい約6%勾配、グラベル道路
	高さ	なし		道路用地幅	道路中心より左右に各20m
	幅	3.7m(1車線)		流路変動	橋梁内で滞留している
	その他			洗掘	橋台部なし
添架物の有無	なし		河川名		
上部工	構造形式	ベイリー橋			
	現況	トラス部材の塗装が剥がれ、全面に腐食が進行している。 木材は維持管理の必要性あり			
下部工	橋台構造形式	橋台2基;基礎工形式不明			
	現況	コンクリート表面にジャンカやコールドジョイントが見られ施工精度に不備がある。 フーチング部が巨石コンクリートで構成されている。 ラミロ側とキブンゴ側の橋台で形状が異なる。			
工 付帯	現況	橋台側面に設置された蛇かごは維持管理されているように見受けられる。			
その他	現況	<ul style="list-style-type: none"> 取り付け道路は、湿地帯への盛土で形成している。 橋梁への水原は、上流部のルミラ湖(Rumira)の増水時とニャバロンゴ川の氾濫時となり、下流部のミライ湖(Miray)へ流れる。 家畜の水飲み場として利用している。 			
適用	洪水時での水位は、聞き取り調査によると上部工の下面付近。				

(2) ガショラ3号橋

橋梁調査表

橋梁名	ガショラ橋3号橋 (Gashora 3)		路線名、路線種別	国道34号線	
橋梁所在地	ガショラ(Gashora)		距離(起点建設年)	道路始点(ラミロ)から8.97km, 1966年	
橋長	18.5m		総幅員	5.1m	
支間長			車道幅	3.7m	
径間数	1径間		歩道地幅	該当なし	
平面線形状況	90°		車線数	1車線	
交通現況	大型車混入度	小、公共交通公社バス路線	架橋 位置 状況	周辺用地現況	湿地帯の中間部
	普通車輛	小		上流部谷道現況	民家なし、農耕地あり
	バイク、自転車	小		下流部谷道現況	民家なし、農耕地あり
	歩行者	小		キブンゴ側道路	2車線、湿地帯内の横断道路
交通規制	荷重	記載なし	河川 状況	ラミロ側道路	2車線、湿地帯内の横断道路
	高さ	なし		道路用地範囲	道路中心より左右に各20m
	幅	3.8m(1車線)		流路変動	河川内の水はない
	その他			洗掘	橋台部なし
添架物の有無	なし		河川名		
上部工	構造形式	ペイラー橋			
	現況	トラス部材の塗装が剥がれ、全面に腐食が進行している。 木束版の取替えと修復の必要性あり。			
下部工	橋台構造形式	橋台2基:基礎工形式不明			
	現況	コンクリート表面にジャンカやコーールドジョイントが見られ施工精度に不備がある。 フーチング部が巨石コンクリートで構成されている。 ラミロ側とキブンゴ側の橋台で形状が異なる。			
付帯工	現況	橋台前面に石張り法面工としており、河床部の巨石による護末工は、先掘されている。			
その他	現況	<ul style="list-style-type: none"> 取り付け道路は、湿地帯への盛土で形成している。 橋梁への水溜は、湿地帯への降雨と上流部ニャバロンゴ川の氾濫時となる。 			
適用	洪水時での水位は、聞き取り調査によると上部工の下面まで付近。				

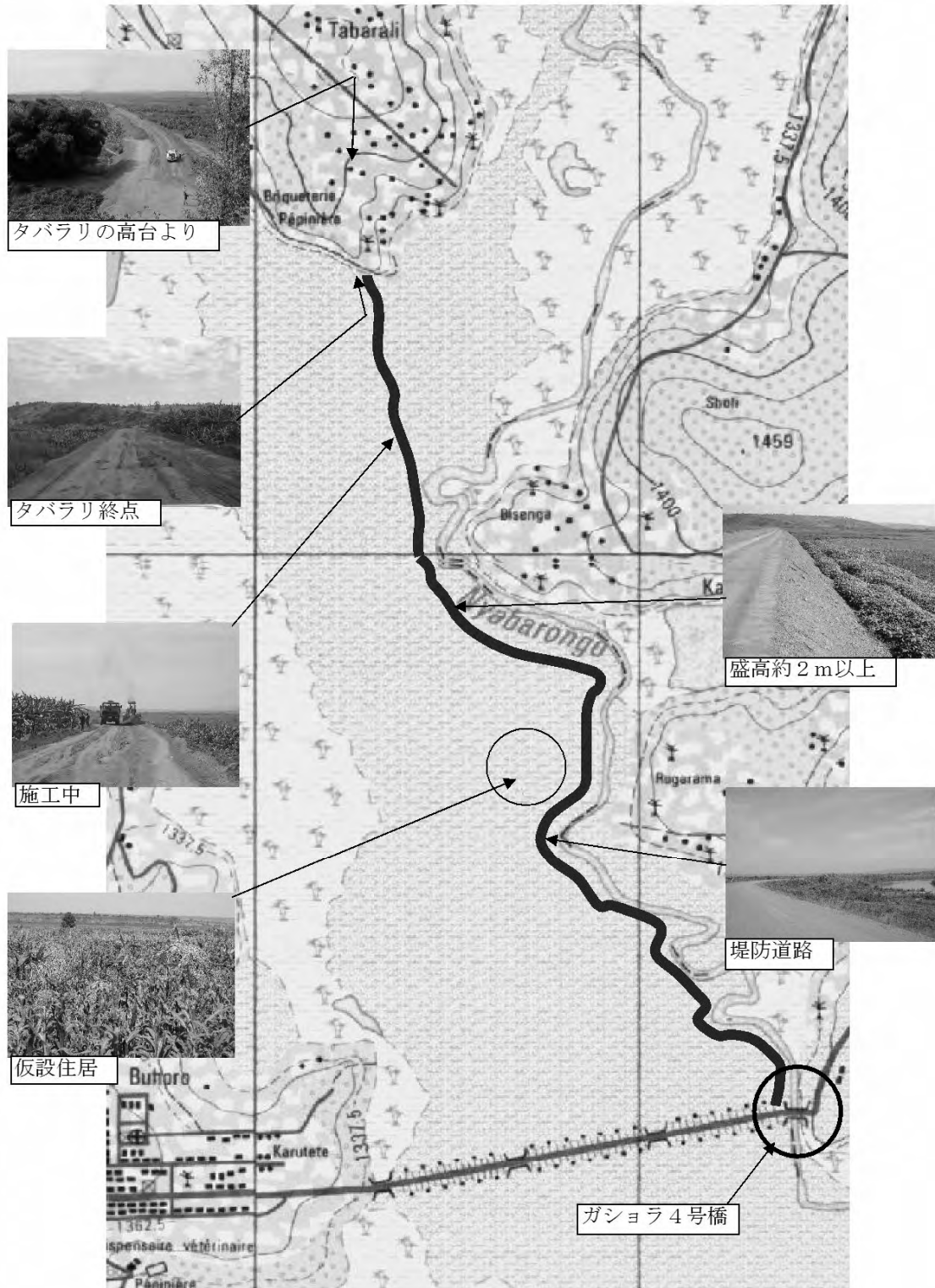
(3) ガショラ4号橋

橋梁調査表

橋梁名	ガショラ橋4号橋 (Gashora 4)		路線名、路線種別	国道34号線	
橋梁所在地	ガショラ(Gashora)		距離・建設年	道路起点(ラミロ)から9.72km, 1966年	
橋長	61.5m		総幅員	5.1m	
支間長	30.75+30.75m		車道幅	3.7m	
径間数	2径間		歩道地幅		
平直線橋形式	90°		車線数	1車線	
交通現況	大型車混入度	小、公共交通公社バス路線	架橋位置状況	周辺用地現況	湿地帯の東側縁部
	普通車輛	小		上流部台道現況	民家なし、バナナ等の農耕地
	バイク、自転車	小		下流部台道現況	民家なし、バナナ等の農耕地
	歩行者	小		キブンゴ側道路	2車線、丘陵地、グラベル道路
交通規制	荷重	記載なし	河川状況	ラミロ側道路	2車線、湿地帯内の横断道路
	高さ	なし		道路用地範囲	道路中心より左右に各20m
	幅	3.8m(1車線)		流路変動	上下流約300m以内は、直線である。
	その他			洗掘	橋台部なし。橋脚部は未確認。
添架物の有無	ケーブルあり		河川名	ニヤバロンゴ川(Nyabarongo)	
上部工	構造形式	ベリール橋			
	現況	トラス部材の塗装が剥がれ、全面に腐食が進行している。 床版(鉄板)腐食による穴を確認した。 橋脚部付帯の床版にギャップがあり、走行中において不具合が生じている。			
下部工	橋脚構造形式	橋脚1基:パイルベント(鋼管杭)			
	現況	鋼管杭6本によるパイルベントである。頭部には、ブレースにより一体化している。 鋼管杭、ブレースともに腐食が進行している。			
	橋台構造形式	橋台2基:基礎工形式不明			
	現況				
付帯工	現況	護岸工なし			
その他	現況	取り付け道路: キブンゴ側からの車輛は、下り勾配(10%)で、カーブの終点に橋梁が位置している。 しかも標識や街灯がないため夜間等の走行中は、事故を誘発する恐れがある。			
適用	洪水時での水位は、聞き取り調査によると上部工の下面程度である。				

資料3 ニャバロンゴ川ダム計画概要図

調査日2006/10/5



参照: Construction dun barrage au long de la riviere AKAGERA 図面より

資料4 資料収集リスト

		プロジェクト ID		調査団番号			
地域	アフリカ	調査団名 又は専門家 氏名	ルワンダ国「キブンゴーラミロ間道路整備計画」予備調査	調査の種類 又は指導科目	予備調査	担当部課	無償資金協力
国名	ルワンダ	配属機関名	道路計画担当	現地調査 期間又は 派遣期間	平成18年 9月13日～10月 12日	担当者氏 名	森 伸介

番号 No.	資料の名称 Name of Documents	形態 Orig. / Copy	種類 Type	発行機関 Organization of Publication	発行年月 Published
1	全国道路図	Original	電子データ	インフラ省	
2	路線地形図	Original	地図 5枚	Service De Cartographie Du Rwanda	1989
3	Administrative Map of Rwanda	Original	地図	National Institute of Statistic of Rwanda	2006.4
4	Tourist Map	Original	地図	Mapping Agency	
5	Final Feasibility Study Report	Copy	図面	インフラ省	2006.4
6	Traffic Report2003	Original	電子データ	インフラ省	2004
7	Organizational Chart, MININFRA	Copy	インフラ省 ホームページ	インフラ省	
8	インフラ省予算案 2007 - 2009	Copy	資料	インフラ省	2006
9	自動車登録台数	Copy	資料	RAA	
10	輸出入量	Copy	資料	RAA	
11	ルスモ交通量調査	Copy	資料	JICA ナイロビ事務所	2006
12	アカゲラ河沿いダム建設図	Copy	図面	MINAGRI	2006
13	Sector Strategies Document 2005-2010	Original	電子データ	インフラ省	2004
14	道路インフラ計画の現状	Copy	内部資料	インフラ省	2006
15	道路プロジェクト	Copy	内部資料	インフラ省	2006

国名	ルワンダ	配属機関名	橋梁計画担当	現地調査 期間又は 派遣期間	平成18年 9月13日～10月 7日	担当者氏 名	森下 潤
----	------	-------	--------	----------------------	--------------------------	-----------	------

番号 No.	資料の名称 Name of Documents	形態 Orig. / Copy	種類 Type	発行機関 Organization of Publication	発行年月 Published
1	APD PONT EN COURS DE CONSTRUCTION PAR STRABAG	Original	電子データ	Ministry of Infrastructure	
2	DAO ETUDE ROUTE ET PONT KAYONZA RUSOMO	Original	電子データ	〃	
3	DAO GASHORA2 SABA	Original	電子データ	〃	
4	FASCICULE 61 SURCHARGES POUR PONTS	Original	電子データ	フランス政府機関	
5	INVENTAIRE DES PONTS APPARTENANT AU RESEAU ROUTIER REVETU DU RWANDA	Original	電子データ	Ministry of Infrastructure	
6	VARIANTE PONT GASHORA2 GIBB	Original	電子データ	〃	
7	BULLETIN CLIMATOLOGIQUE ANEE 1991の抜粋	Copy	電子データ	〃	

国名	ルワンダ	配属機関名	環境社会配慮担当	現地調査 期間又は 派遣期間	平成18年 9月13日～10月 7日	担当者氏 名	柴田 護
----	------	-------	----------	----------------------	--------------------------	-----------	------

番号 No.	資料の名称 Name of Documents	形態 Orig. / Copy	種類 Type	発行機関 Organization of Publication	発行年月 Published
1	人口、教育施設、水道施設、交通事故	Copy		NGOMA District	
2	2002 センサス	Original	電子データ	National Census Service	
3	環境法(英語)	Copy		REMA	
4	土地法(仏語・英語)	Copy		REMA	
5	ETUDE DE FACTIBILITE DE LA ROUTE KIBUNGO-NGENDA-NYABISINDU(RESUME) (仏語 & 英語:DRAFT)	Copy		GIBB	
6	IGCP 案内書(英語)	Original		IGCP	
7	GTZ 案内書(英語) & 年間報告書(仏語)	Original		GTZ	
8	地図(全国&キガリ市 Tourist Map)	Original		観光センター	

**The Result of the Preliminary Study on the Project for Improvement of Kibungo –
Ramiro Road in the Republic of Rwanda (Summary)**

JICA sent a Preliminary Study Team in September 2006 and the contents of the discussions were confirmed with the Rwandan side by the Minutes of the Discussions dated 26 September 2006. The Study Team continued the analysis after returning to Japan and reported to JICA the result of the Study. Based on the findings of the Preliminary Study, recommendations on the next basic design study are proposed hereto.

The government of Rwanda is kindly requested to provide us with additional information and its comments or idea in writing by the end of June 2007. Based on the response from the Rwandan side, JICA will have further consultations with Ministry of Foreign Affairs of Japan regarding the way forward, in accordance with the Article 4 in the Minutes of Discussions signed on 26 September 2006.

1. Summary of the Preliminary Study

1.1 Relevance to development programmes

The project road is classified as a national road and will connect two trunk roads, namely Kigali-Rusmo Road and Kigali-Nemba Road. Kigali-Rusmo Road links Rwanda to Tanzania and Kigali-Nemba Road, currently under construction by the fund from BADEA, is expected to open the window for Burundi by July 2008. The two trunk roads will be gateways for trade and international transport with neighboring countries. However, the relevance of the improvement of the project road should be clarified in terms of nationwide road network. A comprehensive nationwide road network programme has not been confirmed, therefore, the aim of the project road which will result in a circuit of Kigali-Kibungo-Ramiro is still ambiguous. Also, there has been no road sector investment programme that would endorse the priority and financial viability of the project road.

In context of rural development, there was no available information of district development programmes along the project road. The population around the project site is approximately from 200,000 to 300,000. Along the road, economic activities such as retail shops or light industries are observed in Kibungo while people just grow their own food in other areas. Any concrete agricultural or industrial development plan could not be identified during the site survey. Although the JICA programme “Rural Development Programme in Southern Part of the Eastern Province” will focus on the promotion of agricultural activities, the necessity of the improvement of the project road from the view point of rural development should be still

reinforced.

1.-2 Traffic volume

The present traffic volume is not many at particular sections, e.g. 55 vehicles/day at Ramiro side in 2006 and even the forecasted traffic volume is still small (296 vehicles /day at 2010 and 499 vehicles /day at 2019). The forecast was conducted by the study team based on 2003 traffic survey by the government of Rwanda, economic growth rate, generated traffic from improvement of the project road and conversion of Rusumo-Kigali traffic to the project road. On the other hand, 1095 vehicles/day was observed at a road section between Kibungo and 7.5km from Kibungo. However, with such traffic volume, the widening and paving of the project road would be difficult to justify in light of economic feasibility.

1.-3 Environmental and social consideration

The Preliminary Study revealed that a lot of houses exist along the road unexpectedly. If the whole road section would be widened to both sides with 2 lanes, 238 houses would come into the ROW (Right of Way=30m width). Even in a case of widening to one side only, at least 150 houses are considered to be affected by the Project.

The Environmental Guideline is still being formulated, following the enactment of the Law determining the modalities of protection, conservation and promotion of environment in Rwanda in April 2005. The procedures of EIA and land acquisition are also on the process of formulation. MININFRA, the implementing organization with only four technical staff, does not have sufficient experiences on either land acquisition or securing the budget for compensation.

1.-4 Requested bridges along the road section

Currently there are three temporary bridges at Gashora Valley along the project road. The request from Rwanda includes the construction of these bridges. However, the dam construction project is under way at Gashora Valley by the Government of Rwanda to control flood of Nyabarongo River and utilize the river water for agricultural purposes. The construction of the dam will affect the water level, which would not be foreseeable at this stage for bridge designing. As far as the team investigated, even the final formation of dam is not yet decided. Therefore, it is difficult that the bridge components would be included in the project scope.

2. Recommendations on the next basic design study

2.-1 Justification of the project

The Preliminary Study suggests that the justification of the project should be more strengthened in terms of relevance to development programmes and economic feasibility.

Especially, taking into consideration the project cost (requested amount of 23 million US\$), the rationale behind the project needs to be more substantiated in order that the corresponding benefits and effectiveness would be verified. In this regards, **the Rwandan side is requested to provide us with the following information at least.**

- ① **Prospective effects of the improvement of the project in light of nationwide trunk road network plan or road investment programme.**
- ② **Prospective function of road network formulated by connecting the project road at Ramiro to Kigali-Nemba road and roles of the project road in nationwide road network.**
- ③ **How to associate the improvement of the project road with rural development along the road or hinterland.**

2.-2 Environmental and social consideration

The case of widening and paving of the whole road section would lead to the resettlement of more than 200 houses. In accordance with JICA guidelines for environmental and social consideration, the project would be categorized as Category A. In this case, the following items should be cleared prior to the implementation of the basic design study.

- 1) Environmental Impact Assessment must be conducted by the Rwandan side.
- 2) The Rwandan side should hold the stakeholders' meeting in the project area, explain the outline and impact of the project to both direct and indirect PAPs (Project Affected Persons), and obtain the consensus on the project.
- 3) The Rwandan side should obtain the basic agreement with PAPs for the compensation and resettlement.

The contents and methodology of the above procedures need to be presented and consulted with the Advisory Council of Environmental and Social Considerations in advance. The consultation process with the stakeholders and PAPs should be monitored by JICA. In this regard, **there are a lot of rooms for detail discussions with the Rwandan side on necessary preparations for environmental and social consideration after the confirmation of the project justification.**

End

Government of the Republic of Rwanda

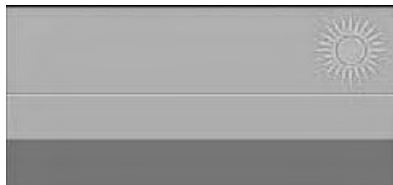


Ministry of Infrastructure

Report submitted to JICA

for

Improvement of Kibungo – Ramiro Road



June, 2007

SUMMARY

The Kibungo Ramiro Road Improvement project was incepted with a preliminary study conducted by a team from JICA in September, 2006. A summary of the preliminary report was submitted to MININFRA in June, 2007 requesting some clarifications on issues pertaining to District Development Initiatives in the respective districts covered by the road. Furthermore, justification for the improvement of the project road in terms of its importance in the National Road Network was also requested, based on Rwanda's Road Investment Programme.

1.0 Introduction

The Project Road traverses two districts, Ngoma and Bugesera respectively and stretches from Kibungo (Ngoma District) to Ramiro (Bugesera district) over a length of about 53km and link two National Trunk Roads; the Kigali – Rusumo road and the Kigali – Nemba road. These two National Roads are international links to Tanzania and Burundi respectively and form part of the Trade and Transport facilitation Project of the East African Community (EAC) of which Rwanda is a member. The estimated cost of the project is in the region of US\$23 million.

The District of Bugesera is in the Southern part of the Eastern Province of Rwanda and is divided into 15 sectors covering about 1,337 km². Ngoma District is East of Bugesera covering a total area of about 738 km² and is divided into 14 sectors.

The Sectors under the jurisdiction of Bugesera are Gashora, Juru, Kamabuye, Mareba, Mayange, Musenyi, Mwogo, Ngeruka, Ntarama, Nyamata, Nyarugenge, Rilima, Ruhuha, Rweru, and Shyara. While the sectors under the jurisdiction of Ngoma are Mutenderi, Sake, Zaza, Kazo, Rurenge, Karemba, Mugesera, Rukumberi, Kibungo, Rukira, Jarama, Remera, Murama, and Gashanda.

2.0 Strategic Importance of the Road

The Rwandan government has recognized that upgrading the Ramiro – Kibungo road to bitumen standard would help in realizing the full economic potential of four districts, Kirehe, Ngoma, Bugesera and Nyanza. This road also has strategic importance in providing an alternative route to the Northern Corridor Route (main access to Mombasa) and the Southern Corridor Route to Dar-es-salaam. Moreover, this road will provide a shorter route to the DRC and Burundi instead of the current route via Kigali. A detailed map is attached showing the section of the road (Ramiro – Kibungo) to be improved.

In addition it will be possible in future to connect Ramiro to Nyabisindu on the Kigali – Butare road. This route will not pass through mountainous terrain thereby shortening journey time considerably.

In light of the fact that the roads Kigali - Nemba and Kigali – Rusumo roads are being upgraded demonstrates the determination from the Rwandan side to improve the National and International Road networks within the country. The links so created would enable Rwanda to be an International Trade route for the Eastern African Transportation System.

The Ministry of Infrastructure has just facilitated the formation of the Rwanda Transport Infrastructure Agency which will be the implementing agency of all the National transport infrastructure projects in the country. Under the National Road Investment Plan the government among other rehabilitation and maintenance projects plans to upgrade the existing National Roads to bitumen standards as well as carry out periodic maintenance of some selected roads.

Table 1 outlines some of the National Roads earmarked for upgrading between 2007 and 2011.

Table 1. List of National Routes proposed for upgrading

Item	Road Name	Length (km)
1	Kigali-Gatuna (RN2)	77.70
2	Kayonza-Rusumo (RN3)	91.40
3	Kigali- Ruhengeri (RN4)	83.10
4	Ruhengeri-Gisenyi (RN4)	66.50
5	Butaré-Cyangugu-Rusizi I (RN6)	145.30
6	Bugarama-Ruhwa (RN10)	7.50
7	Gitarama - Ngororero (RN11)	42.80
8	Ngororero - Mukamira (RN11)	56.00
	Total Length	570.30

Please refer to map attached

The above is part of the Road Network Development programme proposed by MININFRA for the period 2007 – 2011. This programme among others, plans to have the countries main arterial road network to motorable condition within this period. The draft programme is attached as Annex 1.

3.0 Demography of the Districts

The District of Bugesera has a total estimated population of about 274,114 people (September, 2006), separated into a sex ratio of 92.86% (M/F). This population is distributed among 13 sectors. The project road traverses two sectors of Bugesera, Gashora and Mayange with populations of 15,668 and 14,788 respectively. The population distribution of Bugesera District is annexed to this report as Annex 2.

Ngoma District has a total estimated population of about 235,109 separated into a sex ratio of 85.18% (M/F) and distributed among 14 sectors. The project road traverses the districts of Kibuye (20,175), Kazo (20,072), Rurenge (21,175), Gashanda (13,496), Karemba (10,978), Mugesera (23,345), Sake (18,624), Zaza (28,000), Jarama (22,000) and Rukumbi (19,800) making a total population along the project road of about 197,688 people in Ngoma district alone.

Both districts have a total population of about 500,000 with a general yearly growth rate of 0.41% (estimated from 4 year growth figures of adult population).

4.0 Agricultural Activity along project road

The Project road traverses two sector of Bugesera district, Gashora and Mayange while in Ngoma it traverses 6 sectors Kibungo, Kazo, Gashanda, Sake, Zaza and

Rukumberi. The main agricultural activities in these areas are subsistence small scale farming consisting rain fed crop production. Food crops are grown for family consumption and the excess is transported to markets for sale. The main agricultural activities of the sectors are Crop Production (cash and subsistence crops), Animal Husbandry, Bee Keeping and related agricultural activities.

A list of food and cash/subsistence crops cultivated by the inhabitants of Bugesera is presented in Annex 3 & 4 respectively. A detailed breakdown of agricultural production by sector was not available for Ngoma district at the time of preparation of this report.

5.0 Environmental and Social considerations

The Preliminary Study of JICA has reported that widening of the road would require expropriation of land along the project road where about 200 households would be affected.

With respect to the Environmental and Social Impact Assessment required in order for the expropriation of land for widening this road, it must be noted that the Government of Rwanda is committed towards the social welfare of the people and measures would be taken to adequately compensate them. This will be done in line with the expropriation guidelines that the government is using to compensate affected people in current ongoing road construction projects around the country.

The communities along the project road should be encouraged to actively participate in the construction and implementation activities of the road. This maybe in the form of labour inputs, provision of auxiliary services to construction personnel, etc. Furthermore, the project area communities should be consulted from time to time in order to establish their views on resettlement, expropriation etc.

The upgrading of the project will itself contribute to the local micro-economies in terms of job creation. Some construction activities could be reserved for labour - intensive construction such as cleaning of canals, bush clearing and vegetation control of the verge, etc. so that employment could be generated during the project life span.

6.0 Traffic Volumes

The current Traffic Volumes on this road is low due to the fact that the state of the road and the state of the bridges discourages would be transporters from using it. Therefore, the figures for this current low Vpd, if used to project the future traffic volumes, would not give a true picture of the situation for 2010. It is a considered opinion that the traffic volumes will increase by orders of magnitude once a road is brought to motorable condition. This has been clearly demonstrated after road improvements to section of the road from Gitarama as well as Akagera.

An origin and destination traffic study should be conducted so that the source and destination of products could be established. This can be used to accurately determine the economic importance of the interconnections to this project road.

7.0 Constraints faced by the General Districts Population

The rural population in general encounters various problems in their day to day lives. These have to be overcome by the development projects that are earmarked for the districts. Some of the main socio-economic problems faced by the residents are as follows:

- Insufficient Potable Water
- Poor Agricultural/Animal Production
- Pressure of Increase in Population
- Poor Quality of Education Facilities
- Socio-economic infrastructure very poor
- Difficulty in accessing Health Facilities
- Environmental Degradation
- No incentives to retain the population within the District
- Insufficient income generating jobs
- Poor investment in Rural centres

It is without a doubt that Commerce along transport routes will increase with the volume of traffic that uses the route. This is both in terms of rest centres, Fuel stop facilities, Accommodation and general requirements of passenger and goods transporters. In this regard, the micro-economies along this route will improve, with a direct consequence, of improving the living standards of the people along the route.

8.0 Development Programmes in Ngoma and Bugesera

The District Development Programmes formulated to be carried out during the course of the next 5 years hope to solve most or all of these problems. The DDP's of both Bugesera and Ngoma are outlined in this section with budgets. It is envisaged that the cost of these Development Programmes will be supported by development partners of Rwanda.

The Government has drafted a document known as VISION 2020, which is a framework for Rwanda's development, presenting the key priorities and providing Rwandans with a guiding tool for the future. It supports a clear Rwandan identity, whilst showing ambition and imagination in overcoming poverty and division. The Rwandan Government, together with its partners, donors, civil society organisations and the private sector, is now in the process of formulating more detailed sectoral plans in order to attain the goals of VISION 2020. The development programme of a selected sector under each district is referred to as Umurenge.

Vision 2020 Umurenge was inspired by a development programme in Mayange sector of Bugesera where development initiatives were carried out very successfully in one selected village. The impact of the success of this development initiative trickled through to the surrounding villages. This prompted the proposal to formulate a development programme for one selected sector in each district over a period of 2 years. The objective is to monitor how the benefits of development of this sector would trickle into the surrounding sectors. This would initially be done on a pilot basis, where the lessons learnt would be used as basis for the development plans for

the other sectors within the respective districts. It must be noted here that the ongoing development plans of sectors will not be affected by Umurenge.

Vision 2020 is guided by 6 key pillars namely:

Reconstruction of the nation and its social capital anchored on good governance, underpinned by a capable state;

- (a). Reconstruction of the nation and its social capital anchored on good governance, underpinned by a capable state;
- (b). Transformation of agriculture into a productive, high value, market oriented sector, with forward linkages to other sectors;
- (c). Development of an efficient private sector spearheaded by competitiveness and entrepreneurship;
- (d). Comprehensive human resources development, encompassing education, health, and ICT skills aimed at public sector, private sector and civil society. To be integrated with demographic, health and gender issues;
- (e). Infrastructural development, entailing improved transport links, energy and water supplies and ICT networks;
- (f). Promotion of regional economic integration and cooperation.

8.1 Ngoma District

Ngoma district has a planned programme of Development with a budgetary estimate of RwF49.3 billion under the DDP and RwF2.13 billion under Vision 2020 Umurenge. The development programme includes all sectors of the economy from Education to Good Governance. Table 2 shows a summary of the DDP and Vision 2020 initiatives for Ngoma District. It can be seen that under Umurenge 2020, Ngoma District plans to carry out development projects worth about RwF 2.13 billion. The development initiatives range from Socio-economic to good governance.

Table 2. Summary of DDP - Ngoma district
Summary of 5 Year Development Programme for Ngoma

Item	Field of Development	Amount (RwF)
1	Education, Culture, Youth & Sport Development	12,347,000,000.00
2	Internal Resource Management & Human Resource Dev	57,840,000.00
3	Financial Sector Development	11,000,000.00
4	Planning Economic Development & Job Creation	
5	Agriculture Development	6,379,000,000.00
6	Animal Husbandary	2,875,000,000.00
7	Transport Infrastructure Development	17,282,000,000.00
8	Communication Development	404,600,000.00
9	Energy Development	1,130,000,000.00
10	Housing & Urbanisation	3,300,000,000.00
11	Potable Water Supply	2,300,000,000.00
12	Meteorology	64,000,000.00
13	Environmental Protection	1,135,000,000.00
14	Market Construction & Development	230,000,000.00
15	Health Sector Development	1,762,000,000.00
16	GRAND TOTAL	49,277,440,000.00

Summary of Vision 2020 Umurenge for Ngoma District

Item	Field of Development	Amount (RwF)
1	Education	977,000,000.00
2	Health	190,000,000.00
3	Infrastructure	396,000,000.00
4	Environment	203,000,000.00
5	Agriculture	85,000,000.00
6	Animal Husbandary	176,000,000.00
7	Savings & Credit	49,000,000.00
8	Good Governance	57,500,000.00
9	GRAND TOTAL	2,133,500,000.00

A detailed list of Vision 2020 Umurenge initiatives for Ngoma District is given in Annex 5 of this report, while the detailed DDP for Ngoma district is presented in Annex 7.

8.2 Bugesera District

Bugesera district has a planned programme of Development with a budgetary estimate of RwF105.4 billion under the DDP while its initiatives under Vision 2020 Umurenge was not available. The development programme includes all sectors of the economy from Education to Leadership development and Marketing. Table 3 shows a summary of the DDP for Bugesera District.

Table3. Summary of DDP – Bugesera District
Summary of 5 Year Development Programme for Bugesera

Item	Field of Development	Amount (RwF)
1	Land Utilisation & Management	130,000,000.00
2	Housing & Infrastructure	66,049,000,000.00
3	Environmental Protection	1,245,000,000.00
4	Improvement of Hygiene	300,000,000.00
5	Urban Development	1,050,000,000.00
6	Forestry Development	13,610,000,000.00
7	Promotion & Development of Private Enterprises	225,000,000.00
8	Development of Income Generation Projects	2,900,000,000.00
9	Social Development - Education	3,316,815,000.00
10	Constuction of Sport & Cultural Facilities	2,650,000,000.00
11	Youth Enterprises	200,000,000.00
12	Health Services	1,280,000,000.00
13	Leadership Development & Marketing Services	2,860,000,000.00
14	Sub-Total 5 Year Development Budget	95,815,815,000.00
15	<i>Support & Evaluation of DDP</i>	<i>9,581,581,500.00</i>
16	GRAND TOTAL	105,397,396,500.00
17	Funding from Own Resources	15,976,000,000.00
18	External Sources of Funding (Development Partners)	89,421,396,500.00
19	GRAND TOTAL	105,397,396,500.00

It can be seen that the total value of the DDP's and Vision 2020 initiatives for Bugesera and Ngoma sum up to RwF156.8 billion. It is envisaged that this amount will be injected into the economies of both districts over a 5 year period. This works out to about US\$285.1million in terms of foreign currency.

The road improvement cost of US23million works out to be less than 10% of the total cost of the development programmes of the two districts which should indicate that there is a definite return on the investment.

9.0 Work of NGO funded Development Projects

Within the District of Bugesera, there are more than 50 NGO's involved in carrying out various development projects ranging from crop production to literacy education, and provision of primary health care. The NGO's carry out their work in order to raise the standard of living of the people in the respective areas. An improved road would therefore supplement these efforts and make the facilities created by the NGO's more accessible to the population. A list of the NGO's in Bugesera and their involvement in development work is presented in Annex 6.

10.0 Monitoring of Post Project Development

In any development programme there should be a Monitoring and Evaluation system that is specifically designed to measure the achievements and therefore the degree of success of the programme. Some indicators for the monitoring of this project would be as follows:

- The number of private sector projects established in the area particularly in irrigation and Agriculture, food processing, small and medium enterprises such as weaving, bee keeping, wine making etc.
- The reduction of transportation time for products originating from this area
- Reduction of transportation costs for products originating from the area.
- Increase in the number of people who access health and education facilities within this area via this route.
- Increase in private sector transportation in the area as well as the reduction in the cost of passenger transportation to and from the area.

The above system could be implemented with knowledge of the current baseline data that can be collected from statistical agencies or NGO's operating in the region.

11.0 Conclusion

In conclusion, it can be clearly demonstrated that the improvement of the Ramiro – Kibungo section of road to bitumen standards would complement government efforts in bringing development to the respective districts and their communities. As stated above the Rwandan Government plan to inject a total of about Rwf156.8billion into Bugesera and Ngoma Districts over the next 5 years. This kind of development cannot be injected in isolation and with the necessary infrastructure to support the investment.

A good network of transport infrastructure is considered to be key to development, as it forms tangible communication links to routes of commerce and trade. Similarly, in order for District Development Programmes to succeed there should be efficient road transport infrastructure. Furthermore, efforts by NGO's to increase agricultural production in the respective areas would also be supported by a good trunk road which would aid in transportation of agricultural inputs and outputs.

In the medium term, the actual road upgrading activity will create jobs along the length of the road where local people could be engaged in labour intensive construction activities during the project duration.

At an international level, upgrading the road would ease transportation logistics for regional as well as national transporters and help in the reduction of costs of goods and passenger transport. In particular, traveling time and distance to Burundi and the DRC would be reduced considerably. The road would also support the Trade and Transport facilitation initiatives being undertaken by the East African Community (EAC) and make Rwanda a key player in the region.

The income generated from road user fees of international transporters as well as other indirect sources of income from rest areas and lodges will enhance the entrepreneurship capacity of the people along this route.

ANNEX 1

Proposed Road Network Development Programme (2007 – 2011)

I. PROGRAMME D'INTERVENTIONS SUR LE RESEAU BITUME								
		2007	2008	2009	2010	2011 TOTAL	USD/KM	
I.a. PROGRAMME DE REHABILITATION								
Kigali-Gatuna (RN2)	77.7	-	-	15,540,000	15,540,000	-	31,080,000	400,000
Kayonza-Rusumo (RN3)	91.4	-	-	15,995,000	15,995,000	-	31,990,000	350,000
Kigali- Ruhengeri (RN4)	83.1	-	14,958,000	18,697,500	3,739,500	-	37,395,000	450,000
Ruhengeri-Gisenyi (RN4)	66.5	14,630,000	18,287,500	3,657,500	-	-	36,575,000	550,000
Butaré-Cyangugu-Rusizi I (RN6)	145.3	-	13,077,000	32,692,500	19,615,500	-	65,385,000	450,000
Bugarama-Ruhwa (RN10)	7.5	843,750	1,968,750	-	-	-	2,812,500	375,000
Gitarama - Ngororero (RN11)	42.8	7,704,000	7,704,000	3,852,000	-	-	19,260,000	450,000
Ngororero - Mukamira (RN11)	56	-	12,320,000	12,320,000	6,160,000	-	30,800,000	550,000
Sous-Total I,a	570.3	23,177,750	68,315,250	102,754,500	61,050,000	-	255,297,500	
I.b. PROGRAMME D'ENTRETIEN PERIODIQUE								
Kayonza-Kagitumba (RN5)	116.3	-	-	69,780,000	69,780,000	3,489,000	17,445,000	150,000
Gitarama-Kibuye (RN7)	77.2	-	-	4,632,000	4,632,000	2,316,000	11,580,000	150,000
Ruhengeri-Cyanika (RN8)	25.2	-	-	-	1,890,000	1,890,000	3,780,000	150,000
Ryabega - Nyagatare (RN13)	11	-	-	-	825,000	825,000	1,650,000	150,000
	229.7	-	-	74,412,000	77,127,000	8,520,000	34,455,000	
I.c. PROGRAMME D'ENTRETIEN COURANT								
Kigali-Butaré-Akanyaru (RN1)	157	-	1,570,000	1,570,000	1,570,000	1,570,000	6,280,000	10,000
Kigali-Gatuna (RN2)	77.7	777,000	777,000	-	-	-	1,554,000	10,000
Kigali-Kayonza (RN3)	74.8	-	748,000	748,000	748,000	748,000	2,992,000	10,000
Kayonza-Rusumo	91.4	914,000	914,000	-	-	-	1,828,000	10,000
Kigali- Ruhengeri (RN4)	83.1	-	-	-	-	-	-	10,000
Ruhengeri-Gisenyi (RN4)	66.5	-	-	-	-	665,000	665,000	10,000
Butaré-Cyangugu-Rusizi I (RN6)	145.3	-	1,453,000	-	-	-	1,453,000	10,000
Cyangugu-Bugarama (RN9)	38.4	-	384,000	384,000	384,000	384,000	1,536,000	10,000
Bugarama-Ruhwa (RN10)	7.5	-	-	-	75,000	75,000	150,000	10,000
Gitarama - Ngororero (RN11)	42.8	-	-	-	-	428,000	428,000	10,000
Ngororero - Mukamira (RN11)	56	-	-	-	-	560,000	560,000	10,000
Cyangugu-Rusizi II (RN12)	4.5	-	45,000	45,000	-	-	90,000	10,000
Kigali - Nyamata - Nemba (RN15)	61	-	-	610,000	610,000	610,000	1,830,000	10,000
	906	1,691,000	5,891,000	3,357,000	3,387,000	5,040,000	19,366,000	

I.d. EXTENSION DU RESEAU BITUME								
Kigali - Nyamata - Nemba (RN15)	61	21,000,000	10,000,000	-	-	-	31,000,000	
Rubengera - Pfunda (RN 16)	80.6	-	-	-	10,881,000	14,508,000	36,270,000	450,000
Kibuye-Ntendezi (RN17)	93	-	-	-	12,555,000	20,925,000	41,850,000	450,000
Byumba - Base (RN20)	45.6	-	-	-	-	6,156,000	20,520,000	450,000
Kibugabuga - Nyamiyaga- Gasoro (Ntendezi - Mashyuza - Bugarama (f	68.2	-	-	-	12,276,000	12,276,000	30,690,000	450,000
Kagasa - Kibungo (RN34)	56.5	-	7,627,500	12,712,500	5,085,000	-	25,425,000	450,000
Byumba - Nyagasa (RN18)	41	-	-	-	-	5,535,000	18,450,000	450,000
Nyagasa - Nyagatare (RN27)	38	-	-	-	-	5,130,000	17,100,000	450,000
	460.3	21,000,000	17,627,500	12,712,500	40,797,000	71,262,000	238,135,000	
SOUS-TOTAL Réseau Bitumé		45,868,750	91,833,750	193,236,000	182,361,000	84,822,000	547,253,500	USD

II. PROGRAMME D'INTERVENTIONS SUR LE RESEAU DE ROUTES NATIONALES EN TERRE

II.a. PROGRAMME D'ENTRETIEN PERIODIQUE									
	Km						TOTAL	FRw/Km	
		2,007	2,008	2,009	2,010	2,011			
1	Kabarondo-Hotel Akagera	36	700,000,000	1,000,000,000	0	0	0	1,700,000,000	48,000,000
	Kibuye-Karongi	20	1,900,000,000			0	0	1,900,000,000	
1	Gasarenda-Gisovu	55	544,500,000.0	635,250,000	635,250,000	0	0	1,815,000,000	33,000,000
2	Butare-Kibeho-Muse	57	547,200,000.0	638,400,000	638,400,000	0	0	1,824,000,000	32,000,000
3	Cyakabili - Nyabikenke - Ndusu	75.0	927,000,000.0	1,081,500,000	1,081,500,000	0	0	3,090,000,000	41,200,000
4	Nyanza - Kibuye	71.0	681,600,000.0	795,200,000	795,200,000	0	0	2,272,000,000	32,000,000
5	Rubengera-Rugerero	80.6	507,780,000	592,410,000	592,410,000	0	0	1,692,600,000	21,000,000
6	Karongi-Nyamasheke-Buhinga	92.9	613,140,000	715,330,000	715,330,000	0	0	2,043,800,000	22,000,000
7	Maya-Rushaki-Muhambo	36	302,400,000	352,800,000	352,800,000	0	0	1,008,000,000	28,000,000
8	Kazabe-Rutsiro-Gashubi	57.4	551,040,000	642,880,000	642,880,000	0	0	1,836,800,000	32,000,000
9	Byimana-Buhanda-Kitabi	98.9	890,100,000	1,038,450,000	1,038,450,000	0	0	2,967,000,000	30,000,000
10	Gashirabwoba-Nyamirundi	27	178,200,000	207,900,000	207,900,000	0	0	594,000,000	22,000,000
11	Nyagatare -Byumba-Base	130.0	1,170,000,000	1,365,000,000	1,365,000,000	0	0	3,900,000,000	30,000,000
12	Bulinga-Kanyanza na Kabaya-Rubaya	31	0	334,800,000	390,600,000	390,600,000	0	1,116,000,000	36,000,000
13	Kigali-Rushashi-Gakenke	67.6	0	628,680,000	733,460,000	733,460,000	0	2,095,600,000	31,000,000
14	Ntendezi-Mashyuza-Bugarama	37.4	0	403,920,000	471,240,000	471,240,000	0	1,346,400,000	36,000,000
15	Pindura-Bweyeye	32.0	0	374,400,000	436,800,000	436,800,000	0	1,248,000,000	39,000,000
16	Kibungo-Ramiro-Nyanza	130.0	0	1,365,000,000	1,592,500,000	1,592,500,000	0	4,550,000,000	35,000,000
17	Byumba-Butaro-Base	79.0	0	782,100,000	912,450,000	912,450,000	0	2,607,000,000	33,000,000
18	Rugobagoba - Kinazi - Ruhango	45.0	0	243,000,000	283,500,000	283,500,000	0	810,000,000	18,000,000
	Sous-Total II.a. (FRW)	1258.8	9,512,960,000	13,197,020,000	12,885,670,000	4,820,550,000	0	40,416,200,000	FRW
	Sous-Total II.a. (USD)		17,296,290.91	23,994,581.82	23,428,490.91	8,764,636.36	-	73,484,000.00	USD

II.b. PROGRAMME D'ENTRETIEN COURANT								
	Km	2,007	2,008	2,009	2,010	2,011	TOTAL	w/Km/an
	Kabarondo-Hotel Akagera	36	0	21,600,000	21,600,000	21,600,000	64,800,000	600,000
	Kibuye-Karongi	20	12,000,000	12,000,000	12,000,000	12,000,000	48,000,000	600,000
1	Gasarenda-Gisovu	55	0	23,100,000	33,000,000	33,000,000	66,000,000	600,000
2	Butare-Kibeho-Muse	57	0	0	34,200,000	34,200,000	68,400,000	600,000
3	Cyakabili - Nyabikenke - Ndusu	75.0	0	0	45,000,000	45,000,000	90,000,000	600,000
4	Nyanza - Kibuye	71.0	0	0	42,600,000	42,600,000	85,200,000	600,000
5	Rubengera-Rugerero	80.6	0	0	48,360,000	48,360,000	96,720,000	600,000
6	Karongi-Nyamasheke-Buhinga	92.9	0	0	55,740,000	55,740,000	111,480,000	600,000
7	Maya-Rushaki-Muhambo	36	0	0	21,600,000	21,600,000	43,200,000	600,000
8	Kazabe-Rutsiro-Gashubi	57.4	0	0	34,440,000	34,440,000	68,880,000	600,000
9	Byimana-Buhanda-Kitabi	98.9	0	0	59,340,000	59,340,000	118,680,000	600,000
10	Gashirabwoba-Nyamirundi	27	0	0	16,200,000	16,200,000	32,400,000	600,000
11	Nyagatare -Byumba-Base	130.0	0	0	78,000,000	78,000,000	156,000,000	600,000
12	Bulinga-Kanyanza & Kabaya-Rubaya	31	0	0	0	18,600,000	18,600,000	600,000
13	Kigali-Rushashi-Gakenke	67.6	0	0	0	40,560,000	40,560,000	600,000
14	Ntendezi-Mashyuza-Bugarama	37.4	0	0	0	22,440,000	22,440,000	600,000
15	Pindura-Bweyeye	32.0	0	0	0	19,200,000	19,200,000	600,000
16	Kibungo-Ramiro-Nyanza	130.0	0	0	0	78,000,000	78,000,000	600,000
17	Byumba-Butaro-Base	79.0	0	0	0	47,400,000	47,400,000	600,000
18	Rugobagoba - Kinazi - Ruhango	45.0	0	0	0	27,000,000	27,000,000	600,000
	Autres routes restantes	470		282,000,000	282,000,000	282,000,000	1,128,000,000	600,000
		1728.8						
	Sous-Total II.b. (FRW)		0	294,000,000	338,700,000	784,080,000	1,037,280,000	FRw
	Sous-Total II.b. (USD)			534,545.45	615,818.18	1,425,600.00	1,885,963.64	USD

II.c EXTENSION DU RESEAU EN TERRE

Ceinture du Lac Muhazi	80		4,000,000.00	4,000,000.00		8,000,000	100,000
------------------------	----	--	--------------	--------------	--	------------------	---------

Sous-Total Routes en terre		17,296,290.91	24,529,127.27	24,044,309.09	10,190,236.36	1,885,963.64	85,903,927.27	USD
-----------------------------------	--	----------------------	----------------------	----------------------	----------------------	---------------------	----------------------	------------

III. REHABILITATION DES VOIRIES URBAINES

KIGALI	33.0	5,940,000	6,930,000	6,930,000	0		19,800,000	600,000
HUYE	1.0		150,000	175,000	175,000	0	500,000	500000
Huye	10.0		300,000	350,000	350,000		1,000,000	100000
RUBAVU	3		495,000	577,500	577,500	0	1,650,000	550000
MUSANZE	5		825,000	962,500	962,500	0	2,750,000	550000
MUHANGA	2.0		330,000	385,000	385,000	0	1,100,000	550000
RUSIZI	12		1,980,000	2,310,000	2,310,000	0	6,600,000	550000

SOUS-TOTAL III (USD)	66.0	5,940,000	11,010,000	11,690,000	4,760,000	0	33,400,000	USD
-----------------------------	-------------	------------------	-------------------	-------------------	------------------	----------	-------------------	------------

IV. AUTRES DEPENSES SUR LE RESEAU ROUTIER CLASSE

Travaux d'Urgence		1,000,000,000	1,000,000,000	1,000,000,000	1,000,000,000	1,000,000,000	5,000,000,000	
Appui aux routes de districts		2,000,000,000	2,000,000,000	2,000,000,000	2,000,000,000	2,000,000,000	10,000,000,000	
SOUS-TOTAL IV (FRW)		3,000,000,000	3,000,000,000	3,000,000,000	3,000,000,000	3,000,000,000	15,000,000,000	FRW
SOUS-TOTAL IV (USD)		5,454,545	5,454,545	5,454,545	5,454,545	5,454,545	27,272,727	USD

TOTAL ROUTES		74,559,586.36	132,827,422.73	234,424,854.55	202,765,781.82	92,162,509.09	693,830,154.55	USD
---------------------	--	----------------------	-----------------------	-----------------------	-----------------------	----------------------	-----------------------	------------

TRANSPORT IMPROVEMENT AND FACILITATION

	2007	2008	2009	2010	2011	Total
CORRIDOR TRANSPORT IMPROVEMENT						
Transport Options Feasibility Studies						
Isaka Dry Port Feasibility Study	100,000	370,000				470,000
Kigali-Kampala oil Pipeline Feasibility Study		830,000				830,000
Kigali-Kampala oil Pipeline Construction				15,000,000	15,000,000	30,000,000
Additional Studies		200,000				200,000
Isaka-Kigali Rail Feasibility Study	500,000	2,000,000				2,500,000
Isaka-Kigali Rail Design Study			600,000	2,000,000		2,600,000
Corridor Transport facilitation						
Support to Customs Operations	200000	3,000,000	2,500,000	500,000		6,200,000
Border Crossing Improvements		200,000	1,500,000	1,000,000		2,700,000
Improvement of corridor security and transport regulation		1,000,000	900,000	200,000		2,100,000
Single Trade Process Window	300,000	1,000,000	700,000			2,000,000
Isaka Dry Port Construction			2,000,000	3,000,000		5,000,000
SOUS-TOTAL CORRIDOR	1,100,000	8,600,000	8,200,000	21,700,000	15,000,000	54,600,000
AIR TRANSPORT IMPROVEMENT						
Bugesera Airport Study	2,000,000	6,000,000				8,000,000
CNS/ATM (Air Traffic Management)	1,000,000	1,600,000				2,600,000
Rehabilitation & Extension of airdromes		3,000,000	500,000	160,000		3,660,000
TOTAL	3,000,000	10,600,000	500,000			14,260,000

WATER TRANSPORT IMPROVEMENT

Akagera River Navigability Feasibility Study	220,000	600,000			820,000
Feasib. study for quays on the Lake Kivu and other lakes	50,000	100,000			150,000
Constr.of accosting quays on Lake Kivu and other lakes			150000	150000	300000
Study for Construction of shipyard on the Lake Kivu	50000	50000			100000
Construction of a shipyard on the Lake Kivu			1500000	1000000	2500000
SOUS-TOTAL	320,000	750,000	1,650,000	1,150,000	3,870,000

CAPACITY BUILDING TO THE TRANSPORT SECTOR

Transport Analytical Capacity Improve	-	750,000	2,950,000	2,050,000	700,000	6,450,000
Training						
Long Term Training (Transport Economy and Planning)		350,000	1,000,000	1,000,000	500,000	2,850,000
Short Term Training (technical courses)		200,000	200,000	200,000	100,000	700,000
Sector Analysis						
Yearly traffic counts and road data collection		100,000	100,000	100,000	100,000	400,000
Transport Master Plan			500,000	300,000		800,000
Road works Costs and Standars study		100,000	200,000			300,000
Two weighing stations for axle load data generation			600,000			600,000
Road Safey training and data management			150,000	150,000		300,000
Transport Data Base and M & E System			200,000	300,000		500,000
Transport Sector Policy Support	1,050,000	2,550,000	2,050,000	1,350,000	50,000	7,050,000
Technical Support to MININFRA/Infrastructure Special Unit		1,000,000	1,000,000	1,000,000	-	3,000,000
Support to MININFRA/ Transport Infrastructu	1,000,000	1,500,000	1,000,000	300,000	-	3,800,000
Regional Dialogue Facilitation (Regional Inte	50,000	50,000	50,000	50,000	50,000	250,000
Sous Total	1,050,000	3,300,000	5,000,000	3,400,000	750,000	13,500,000
TOTAL TRANSPORT IMPROVEMENT	5,150,000	22,500,000	13,700,000	25,100,000	15,750,000	82,360,000
GRAND TOTAL TRANSPORT	79,709,586.36	155,327,422.73	248,124,854.55	227,865,781.82	107,912,509.09	776,190,154.55
						USD
	43,840,272,500	85,430,082,500	136,468,670,000	125,326,180,000	59,351,880,000	426,904,585,000
						FRW

ANNEX 2

Population Distribution of Bugesera by Sector

Item	Sector	August, 2002				September, 2006				Yearly Growth Rate (4 Yr - %)
		Masculin	Feminine	Total	3° Sex Ratio (M/F)	Masculin	Feminine	Total	3° Sex Ratio (M/F)	
1	Gashora	7,138.00	8,065.00	15,203.00	88.51	7,381.00	8,287.00	15,668.00	89.07	0.42
2	Juru	9,050.00	10,161.00	19,211.00	89.07	9,299.00	10,440.00	19,739.00	89.07	0.41
3	Kamabuye	8,217.00	9,187.00	17,404.00	89.44	8,443.00	9,440.00	17,883.00	89.44	0.41
4	Mareba	8,750.00	10,350.00	19,100.00	84.54	8,991.00	10,635.00	19,626.00	84.54	0.41
5	Mayange	7,018.00	7,374.00	14,392.00	95.17	7,211.00	7,577.00	14,788.00	95.17	0.41
6	Musenyi	9,814.00	11,026.00	20,840.00	89.01	10,084.00	11,329.00	21,413.00	89.01	0.41
7	Mwogo	5,614.00	6,548.00	12,162.00	85.74	5,768.00	6,728.00	12,496.00	85.73	0.41
8	Ngeruka	12,003.00	13,987.00	25,990.00	85.82	12,333.00	14,279.00	26,612.00	86.37	0.39
9	Ntarama	6,783.00	7,194.00	13,977.00	94.29	6,970.00	7,392.00	14,362.00	94.29	0.41
10	Nyamata	8,749.00	10,217.00	18,966.00	85.63	8,990.00	10,498.00	19,488.00	85.64	0.41
11	Nyarugenge	7,051.00	8,292.00	15,343.00	85.03	7,245.00	8,520.00	15,765.00	85.04	0.41
12	Rilima	16,431.00	10,915.00	27,346.00	150.54	16,883.00	11,215.00	28,098.00	150.54	0.41
13	Ruhuha	7,882.00	9,434.00	17,316.00	83.55	8,099.00	9,693.00	17,792.00	83.56	0.41
14	Rweru	9,223.00	10,414.00	19,637.00	88.56	9,477.00	10,700.00	20,177.00	88.57	0.41
15	Shyara	4,678.00	5,255.00	9,933.00	89.02	4,807.00	5,400.00	10,207.00	89.02	0.41
		128,401.00	138,419.00	266,820.00	92.76	131,981.00	142,133.00	274,114.00	92.86	0.41

ANNEX 3.

Production of Market Gardening Bugesera District by Sector

Item	Sector	Production in Kilogrammes						
		Vegetables	Egg Plant	Marrow	Tomatoes	Sunflower	Coffee	Rice
1	Gashora	4,170.00	3,436.00	13,538.00	401.00	452.00	424.00	950.00
2	Juru	82,523.00	5,757.00	8,286.00	29,080.00	3,391.00	7,232.00	2,100.00
3	Kamabuye	5,800.00	1,103.00	3,643.00	8,748.00	1,386.00	610.00	998.00
4	Mareba	8,853.00	8,173.00	4,048.00	14,106.00	8,139.00	24,047.00	163,430.00
5	Mayange	3,082.00	1,937.00	10,295.00	1,580.00	9,391.00	16,618.00	-
6	Musenyi	10,933.00	4,837.00	9,154.00	128,446.00	813.00	65,309.00	15,005.00
7	Mwogo	13,806.00	2,668.00	12,063.00	35,087.00	614.00	14,493.00	631.00
8	Ngeruka	19,347.00	2,531.00	7,119.00	7,983.00	297.00	12,650.00	9,104.00
9	Ntarama	20,431.00	2,489.00	3,208.00	12,510.00	260.00	18,166.00	-
10	Nyamata	5,385.00	1,248.00	1,146.00	6,605.00	100.00	24,961.00	-
11	Nyarugenge	9,078.00	8,228.00	2,017.00	10,661.00	1,952.00	35,122.00	68,813.00
12	Rilima	3,144.00	2,745.00	4,306.00	4,215.00	5,652.00	13,872.00	165.00
13	Ruhuha	18,064.00	8,337.00	2,573.00	12,549.00	6,421.00	16,968.00	221,136.00
14	Rweru	43,988.00	6,649.00	10,432.00	9,851.00	5,560.00	8,565.00	605.00
15	Shyara	8,527.00	3,117.00	2,124.00	7,770.00	1,030.00	67,239.00	48,029.00
		257,131.00	63,255.00	93,952.00	289,592.00	45,458.00	326,276.00	530,966.00

Fruit Production in Bugesera by Sector

Item	Sector	Production in Kilogrammes						
		Passion Fruit	Grapes	Pineapple	Avocado	Oranges	Mangoes	Others
1	Gashora	232.00	72.00	1,562.00	8,491.00	718.00	774.00	1,921.00
2	Juru	462.00	160.00	6,681.00	6,255.00	540.00	927.00	1,303.00
3	Kamabuye	101.00	42.00	3,500.00	8,035.00	99.00	550.00	311.00
4	Mareba	760.00	3,319.00	4,340.00	3,976.00	730.00	8.00	438.00
5	Mayange	20.00	76.00	422.00	8,822.00	205.00	520.00	297.00
6	Musenyi	605.00	3,755.00	12,654.00	1,045.00	642.00	884.00	454.00
7	Mwogo	310.00	1,710.00	6,967.00	6,288.00	594.00	171.00	117.00
8	Ngeruka	661.00	475.00	15,720.00	6,524.00	426.00	415.00	134.00
9	Ntarama	360.00	972.00	7,795.00	8,553.00	10.00	472.00	263.00
10	Nyamata	402.00	170.00	1,441.00	10,697.00	3.00	675.00	-
11	Nyarugenge	576.00	4,924.00	7,984.00	12,694.00	763.00	846.00	667.00
12	Rilima	26.00	330.00	621.00	9,910.00	187.00	870.00	23.00
13	Ruhuha	848.00	3,685.00	3,749.00	7,443.00	423.00	244.00	618.00
14	Rweru	618.00	3,254.00	7,774.00	7,521.00	854.00	862.00	2,931.00
15	Shyara	245.00	23,435.00	2,979.00	5,939.00	581.00	203.00	257.00
		6,226.00	46,379.00	84,189.00	112,193.00	6,775.00	8,421.00	9,734.00

ANNEX 4.

Cash Crop Production in Bugesera District by Sector

Item	Sector	Production in Kilogrammes											
		Legumes	Maize	Sorghum	Groundnuts	Soyabeans	Bananas	Sweet Potatoes	Yams	Cassava	Colocase	Potatoes	Peas
1	Gashora	616,090.00	51,141.00	186,005.00	6,613.00	12,465.00	35,885.00	343,368.00	42.00	35,093.00	1,220.00	2,834.00	245.00
2	Juru	900,966.00	93,567.00	425,032.00	29,714.00	30,657.00	584,811.00	961,840.00	891.00	14,055.00	12,001.00	2,923.00	1,186.00
3	Kamabuye	475,611.00	37,277.00	83,615.00	2,532.00	11,376.00	51,470.00	38,163.00	5,268.00	4,372.00	2,390.00	8,719.00	795.00
4	Mareba	986,406.00	345,894.00	152,048.00	474,132.00	16,705.00	84,931.00	92,579.00	5,174.00	12,604.00	336,718.00	16,840.00	2,295.00
5	Mayange	627,865.00	874,493.00	419,456.00	7,019.00	20,878.00	18,871.00	76,624.00	6,095.00	25,785.00	1,055.00	3,195.00	2,021.00
6	Musenyi	951,114.00	201,002.00	985,977.00	34,054.00	65,572.00	946,689.00	2,067,668.00	8,236.00	311,164.00	39,467.00	65,888.00	7,192.00
7	Mwogo	734,657.00	42,837.00	279,308.00	19,459.00	14,561.00	138,594.00	260,896.00	1,350.00	25,572.00	5,643.00	32,395.00	254.00
8	Ngeruka	756,320.00	127,159.00	416,944.00	22,417.00	27,342.00	374,043.00	203,507.00	2,941.00	78,377.00	5,217.00	36,613.00	4,378.00
9	Ntarama	869,230.00	131,135.00	535,020.00	17,032.00	22,276.00	256,018.00	549,211.00	369.00	179,355.00	9,865.00	20,018.00	2,037.00
10	Nyamata	641,392.00	92,422.00	703,261.00	679,794.00	14,021.00	118,674.00	80,643.00	2,329.00	64,812.00	4,417.00	1,800.00	80.00
11	Nyarugenge	548,308.00	469,500.00	104,352.00	264,151.00	39,065.00	320,659.00	287,495.00	9,822.00	61,193.00	5,419.00	31,339.00	3,640.00
12	Rilima	496,445.00	183,155.00	89,885.00	105,303.00	33,520.00	25,876.00	37,970.00	1,020.00	3,637.00	105,716.00	1,100.00	229.00
13	Ruhuha	776,573.00	29,641.00	987,150.00	11,488.00	15,677.00	507,542.00	509,026.00	4,729.00	41,639.00	2,172.00	18,836.00	1,983.00
14	Rweru	674,055.00	98,301.00	794,014.00	511,070.00	23,849.00	499,510.00	1,370,909.00	282.00	38,167.00	41,880.00	35,373.00	3,545.00
15	Shyara	65,265.00	329,585.00	52,232.00	7,582.00	11,819.00	98,796.00	215,187.00	5,385.00	11,329.00	2,859.00	23,497.00	3,637.00
		10,120,297.00	3,107,109.00	6,214,299.00	2,192,360.00	359,783.00	4,062,369.00	7,095,086.00	53,933.00	907,154.00	576,039.00	301,370.00	33,517.00

Agricultural Production in Ngoma District - Mixed

Item	Crop/Produce	Production in Tonnes
1	Coffee	-
2	Bananas	140,792.00
3	Rice	1,715.00
4	Beans	14,850.00
5	Cereals	13,792.00
6	Tomatoes	735.00
7	Pineapples	995.00
8	Storage Capacity	1,450.00
9	Fertilizer (Organic)	120.00
10	*Milk	285,552.00
11	Fish	100.90
12	Honey	14.90

*Litres of Milk

Detailed production by sector was not available

ANNEX 5

VISION 2020 UMURENGE - NGOMA DISTRICT

N°	DOMAINE	PROJETS	COUTS EN FRW
1	EDUCATION	Construction de 45 classes maternelles	180,000,000.00
2		Construction de l'école primaire	320,000,000.00
3		Construction de 14 locaux+laboratoire, dortoirs et salle polyvalente	15,000,000.00
4		Extension des écoles primaires (ESI) : 18 locaux	72,000,000.00
5		Construction d'un centre de formation professionnelle (CFJ)+Equipement	150,000,000.00
6		Centre ITORERO : Cellules+3 Imidugudu pilotes	240,000,000.00
7	SANTE	Construction d'un centre de santé	150,000,000.00
8		Promotion des Clubs anti-Sida	5,000,000.00
9		Lutte contre la malaria	10,000,000.00
10		Clubs d'hygiène	10,000,000.00
11		Clubs Planification familiale pour les jeunes et ménages Umudugudu	15,000,000.00
12	INFRASTRUCTURES	Adduction d'eau pour 26 villages	160,000,000.00
13		Electricité	150,000,000.00
14		Télé centre	40,000,000.00
15		Cyber Café	30,000,000.00
16		Entretiens des routes 16 Km	16,000,000.00
17	ENVIRONNEMENT	REBOISEMENT	24,000,000.00
18		TERRASSES RADICALES 90 HA	99,000,000.00
19		TERRASSES PROGRESSIVES	80,000,000.00
20	AGRICULTURE	Promotion des nouvelles cultures (vers à soie, macadamia, piments, arbres	34,000,000.00
21		Promotion de cultures de café et bananes	16,000,000.00
22		Promotion de la nouvelle technologie agricole (mécanisation)	35,000,000.00
23	ELEVAGE	Amélioration génétique de bovins et introduction de 50 vaches laitières	160,000,000.00
24		Programme d'une vache par famille	16,000,000.00
25	EPARGNE ET CREDIT	Installation de 8 stocks hermétique	24,000,000.00
26		Banque de micro crédits	15,000,000.00
27		Promotion de 8 coopératives agro élevage	5,000,000.00
28		Promotion d'artisanat (Agaseke)	5,000,000.00
29	BONNE GOUVERNANCE	Construction de 3 bureaux administratifs (Extension du secteur et 4 cellules)	13,500,000.00
30		Equipement de secteurs et 4 cellules	10,000,000.00
31		Club unité et réconciliation	4,000,000.00
32		Construction de 53 logements pour les sans abris	15,000,000.00
33		Encadrement des enfants chefs de ménages et filles mères	5,000,000.00
34		Appui aux CNJ et CNF	10,000,000.00
	TOTAL		2,133,500,000.00

ANNEX 6

NGO Activity in Bugesera

Item	NGO	Development Effort	Zone	Target Group
1	PASAB/CARITAS	Agriculture Development	Ruhuha, Shyara, Nyarugenge, Mareba, Musenyi, Nyamata, Mwogo, Ntarama and Jeru	Economically Active Poor
2	LUX-DEVELOPMENT	Rural & Infrastructure Development	Whole District	General Population
3	FAO	Agricultural Inputs	Whole District	General Population
4	JICA	Rural Development & Planning	Ntarama	General Population
5	RSSP	Rural Development	Mareba, Musenyi and Shyara	Maize Producers
6	PAPSTA	Agricultural Inputs	Ruhuha & Ngeruka	General Population
7	MILLENIUM VILLAGE	Global Development	Mayange & Nyamata	General Population
8	RADA	Agriculture Development	Whole District	General Population
9	RARDA	Promotion of Animal Husbandary	Whole District	General Population
10	ISAR	Agricultural Research	Gashora	General Population
11	Vie-Life	LAE	Gashora	General Population
12	PADEBL	Development of Rearing Milking Cows	Gashora, Rweru & Mayange	General Population
13	SEND A COW	Milking Cows	Ngeruka, Musenyi & Ruhuha	General Population
14	PAIGELAC	Fish Farming	Rlimima, Gashora, Juru, Mayange, Rweru, Ngeruka & Mareba	General Population
15	BAD	Country Planning	Nyamata, Rilima & Mwogo	General Population
16	PPPMER III	Promotion of Small and Medium Enterprises	Rweru, Gshora, Rilima, Juru, Mayange	Youth
17	WORLD VISION	Global Development	Whole District	General Population
18	GTZ	Planning	Whole District	General Population
19	UNICEF	Planning and Statistics for WATSAN	All Sector	General Population
20	ACCORD	Education	Whole District	Orphans
21	AEE	Education	Juru & Rilima	Schools
22	GENEVA GLOBAL	School Construction	Mareba, Ngeruka	Academic Population
23	WFP	Academic Rations and Agricultural Planning	Whole District	Academic Population
24	COMPASSION	School Fees	Whole District	Orphans
25	BENISHYAKA	School Fees	Whole District	Orphans
26	CARITAS	School Fees	Whole District	Orphans
27	PARACLET FOUNDATION	School Construction	Nyamata	Girls
28	ADEPR	Literacy Education	Whole District	Adults and Non School Leavers
29	ARTCF	Literacy Education	Juru, Mwogo, Rweru, Kamabuye & Rilima	Adults and Non School Leavers
30	BENIMPUHWE	Literacy Education	Nyarugenge, Ruhuha, Ntarama & Musenyi	Adults and Non School Leavers
31	EPR	Literacy Education	Nyamata	Adults and Non School Leavers

32	CARE INTERNATIONAL	Literacy Education	Whole District	Adults and Non School Leavers
33	PPPMERII	Literacy Education	Gashora, Rilima, Juru, Mwogo, & Rweru	Adults and Non School Leavers
34	RAFIKI FOUNDATION	School Construction	Nyamata	Orphanages
35	AMA	School Construction	Gashora	Academic Population
36	CDF	Construction & Environmental Protecion	Whole District	
37	BAD	Rehabilitation of Road Infrastructure (about 60km)	5 Sectors	
38	LWF	Financing of Construction work for 30 Houses for the homeless	Rweru	Returnees from Tanzania
39	IMCE	Environmental Protection	Rweru, Gashora, Juru, Rilima	
40	PAFOR	Reforestation	Whole District	
41	FER	Road Maintenance		
42	REMA	Environmental Protection		
43	CTB	Contract Approach	Whole District	Health Units, Hospitals and Health Centrea
44	FHI	Functioning	Whole District	Health Units, and Hospital
45	ACCESS	Technical Support	Whole District	Health Units, Hospitals and Health Centrea
46	GLOBAL FUND	Mutual Health, Construction of VCT, PMTCT Offices	Whole District	Destitutes, Health Centre, Gihinga
47	PACFA	Mutual Health	Whole District	Persons living with HIV/AIDS, Orphans
48	EGPAF	Construction & Rehabilitation of VCT/PMTCT Offices, Motivation of Personnel	Rweru, Shyara	Health Centre Nzangwa, Health Centre Gihinga
49	CHAMP	Support to AIDS patients	Whole District	AIDS patients
50	HOPE & HOME FOR CHILDREN	Mutual Health	Whole District	Orphans & Destitutes
51	IBUKA	Support to Genocide Victims	Whole District	Genocide Victims
52	UKURI KUGANZE	National Reconciliation	Nyamata, Mwogo, Musenyi, Ntarama, Mayange	Victims & families of Genocided
53	AVEGA	Support to Widows of Genocide	Whole District	Widows
54	KANYARWANDA	Women victims of violence	Ruhuha, Nyamata	Women
55	SOLACE MINISTRIES	Support for victims of Genocide	Nyamata, Ntarama	Victims of Genocide

ANNEX 7

NGOMA Detailed DDP.

Plan d'exécution: UNITE EDUCATION, JEUNESSE, SPORT ET CULTURE

No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation
				Etat	Privé ONG	Extérieur		1	2	3	4	5	
1	Construction de 40 logements	Secteurs de Jarama, Rukumberi,Sake, Mugesera, Karemba, Gashanda	Le District	MINEDUC,D ISTRIC			205.00	x	x	x	x		Ces logements permettront de maintenir les enseignants à rester motivés dans la carrière
2	Création de 67 cantines scolaire	Toutes les écoles primaires	Le District	Les écoles			20.00			x			
3	Equipped de 67 écoles primaire et de 14 écoles secondaires	Tous les secteurs	Le District	MINEDUC,D ISTRIC,Les écoles			72.90	x	x	x			Cet équipement consiste en achat de pupitres
4	Création et équipement de 10 bibliothèques scolaires dans 10 écoles secondaires	GS Gasetsa,ES Rukira, ES Kabilizi,ES Sake, ES Mabuga,ES Kigarama, ES Mutenderi,EAV Gitwe,ES Rurama, ASPEK	le District, les écoles	MINEDUC,le District, les écoles			100.00	x	x	x	x		
5	Equipped de 10 laboratoires de sciences dans 10 écoles secondaires et de 63 coins sciences dans toutes les écoles primaires	GS Kabare, GS Gasetsa, ES Rukira, ES Kabilizi, ES Sake, ES Mabuga, ES Kigarama, EAV Gitwe, ES Mutenderi,ES Rurama.	le district	MINEDUC,le District, les écoles			100.00	x	x	x	x		
6	Ouverture de sections scientifiques à 8 écoles secondaires	GS Gasetsa, ES Rukira, ES Kabilizi, ES Sake,EAV Gitwe, ES Kigarama, ,ES Mutenderi, GS Zaza TTC.	le district	MINEDUC,le District, les écoles			24.00	x	x				
7	Création et équipement 12 laboratoires informatiques dans 10 écoles secondaires	ES Zaza A, GS Gasetsa, ES Rukira, ES Kabilizi, ES Sake, ES Mabuga, ES Kigarama, EAV Gitwe, ES Mutenderi,ES Rurama, ES Kansana,Es Kazo.	le district	MINEDUC,le District, les écoles			100.00	x	x	x	x		
8	Sensibilisation des écoles à renforcer l'hygiène et à disponibiliser les latrines séparées pour filles et garçons	Toutes les écoles primaires et secondaires	le district	MINEDUC,le District, les écoles			15.00	x	x				
9	Mise en place du Système de gestion de l'information sur l'Education	Toutes les écoles, toutes les cellules, tous les secteur, District	le District	MINEDUC,le District,			10.00	x					
10	Construction d'un centre de formation continu des enseignants	Secteur de ZAZA	Le District		x(BAD)		45.00	x					
11	Construction de 1110 salles de classes	Tous les secteurs	Le District	x	x(BAD, UNICEF)		10,545.00	x	x	x	x	x	On cherche à éliminer le système de double vacation et à étendre l'éducation de base de 9ans
12	Paiement de frais de scolarité pour 100 enfants handicapés	Tous les secteurs	Le District	x	x		36.00	x	x	x	x	x	
13	Construction de 64 salles de classes de Maternelle	Tous les secteurs	Le District	x	x		608.00	x	x	x	x		
14	Renforcement des capacités des enseignants de Maternelle	Tous les secteurs	Le District	x(MINEDUC)			10.00	x	x				
15	Construction d'un centre de formation professionnelle des jeunes	Secteur de KIBUNGO	Le District	x			50.00	x					
16	Renforcement des capacités des centres d'alphabétisation fonctionnelle	Tous les secteurs	Le District	x			20.00	x	x	x	x		
17	Renforcement des capacités des structures du CNJR	Tous les secteurs	Le District	x			50.00	x	x	x	x	x	
18	Sensibilisation des jeunes à la lutte du VIH/SIDA	Tous les secteurs	Le District	x	x(PSI)		20.00	x	x	x	x		
19	Equipped du Centre Itorero	Secteur de KIBUNGO	Le District	x(MIJESPOC)			50.00	x					
20	Construction d'un site mémorial du génocide du District et Amanagement des sites mémoriaux de Secteurs	Secteur de KIBUNGO	Le District		x		60.00	x	x	x			
21	Construction du Stade de District	Secteur de KIBUNGO	Le District	x			200.00	x	x				
22	Formation des entraîneurs/encadreurs sportifs et des arbitres	Tous les secteurs	Le District	x	x(FRVA, FERWAF, ...)		6.00	x		x			
	Total						12,346.90						

Plan d'exécution: UNITE GESTION DES RESSOURCES INTERNES ET PROMOTION DES RESSOURCES HUMAINES

No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation
				Etat	Privé ONG	Extérieur		1	2	3	4	5	
1	Formation sur la Planification et la Gestion de Projets destinée aux membres de la Commission de passation des marchés publics		District de Ngoma	District	Intrahealth TWUBAKA NE		22.50	x	x	x	x	x	1 formation en Aout/2007 et en Fév/2008
2	Formation sur la Planification et la Gestion de Projets destinée aux CDC des Secteurs		District de Ngoma	District	Intrahealth TWUBAKA NE		9.80	x	x	x	x	x	1 formation en Nov/2007 et en Mars/2008
3	Mobilisation des fonds pour le financement des formations		District de Ngoma	District	Intrahealth TWUBAKA NE		0.84	x	x	x	x	x	Négociations avec les ministères et les Partenaires
	Formation sur la Planification Stratégique destinée au Personnel du District		District de Ngoma	District	Intrahealth TWUBAKA NE		9.50	x	x	x	x	x	1 formation program mée au cours du 1er Trim. chaque année
4	Acquisition de logiciels de gestion (Comptabilité, Logistique, Ressources humaines, Stock)		District de Ngoma	District	Intrahealth TWUBAKA NE		8.00	x	x	x	x	x	Négociations avec les ministères et les Partenaires
5	Formations en Anglais, en Français et en Informatique destinées au Personnel du District		District de Ngoma	District	Intrahealth TWUBAKA NE		7.20	x	x	x	x	x	1 formation par trimestre
	Total						57.84						

Plan d'exécution: UNITE DES FINANCES

No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation
				Etat	Privé ONG	Extérieur		1	2	3	4	5	
1	Formation sur les lois et Procédures de perception des Impôts et Taxes destinée aux Secrétaires Exécutifs des Secteurs et leurs Secrétaires Comptables		Receveur des Impots, RRA, Directeur des Finances	District			5.00	x	x	x	x	x	1 formation en Juillet/2007
2	Formation sur les lois et Procédures de perception des Impôts et Taxes destinée aux membres du TAC du District			District			3.50	x	x	x	x	x	Négociati ons avec les ministères et les Partenaires
3	Tournées de sensibilisation et de formation sur l'Impot dans les Grands Centres de négoce			District			2.50	x	x	x	x	x	Négociati ons avec les ministères et les Partenaires et Tournées organisées par TAC
	Total						11.00						

Plan d'exécution: UNITE DE LA PLANIFICATION, DE DEVELOPPEMENT ECONOMIQUE ET D'EMPLOI

AGRICULTURE													
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation
				Etat	Privé ONG	Extérieur		1	2	3	4	5	
1	Aménagement de terrasses radicales sur 500 Ha	14 Secteurs	District de Ngoma	RSSP/Minagri et Minitere			500.00	x	x	x	x	x	
2	Lutte anti-érosive sur 21000Ha	14 Secteurs	District de Ngoma	RSSP/Minagri et Minitere			210.00	x	x	x	x	x	Formation, Achat matériel
3	Réhabilitation 12200 Ha de culture de Banane	14 Secteurs	District de Ngoma	RSSP/Minagri et Minitere			50.00	x	x	x	x	x	RSSP/Minagri
4	Extension et Réhabilitation de culture d'Ananas	Mutnderi, Mugesera, Jarama et Kazo	District de Ngoma	RSSP/Minagri et Minitere			32.00	x	x				
5	Aménagement de marais de Rukerenge de 30 Ha	Kazo	District de Ngoma	EER			30.00	x	x				EER
6	Multiplication de boutures de manioc résistants à la mosaïque	14 Secteurs	District de Ngoma	RSSP/Minagri			222.00	x	x	x	x	x	RSSP/Minagri
7	Aménagement de marais Gisaya de 100ha	Karemba	District de Ngoma	RSSP/Minagri et Minitere			100.00	x	x				RSSP/Minagri
8	Aménagement de marais Kavogo de 200ha	Zaza	District de Ngoma				200.00			x	x		RSSP/Minagri
9	Aménagement de marais Kibare de 150Ha	Mugesera	District de Ngoma				150.00				x	x	RSSP/Minagri
10	Installation d'une Unité de Transformation d'Ananas	Kibungo	Privé				100.00		x	x			
11	Installation d'une Unité de Transformation de Tomate	Gashanda	Privé				120.00			x	x		
12	Irrigation sur 1000 Ha à Rukumberi	Rukumberi	District de Ngoma				2,760.00	x	x	x	x	x	PIP
13	Aménagement de marais Cyabava sur 30Ha	Rukira	District de Ngoma				30.00		x	x			LWF
14	Aménagement de marais de Kiriko sur 150Ha	Sake	District de Ngoma				150.00		x	x			RSSP/Minagri
15	Mécanisation de l'Agriculture Machine et culture attelée	Sake, Rukumberi et Jarama	Privés				250.00	x	x	x	x	x	
16	Stock hermétique de 50T dans chaque cellule	64 cellule	District de Ngoma				190.00	x	x	x	x	x	
17	Collecte de l'eau de ruissellement pour l'irrigation sur collines	14 Secteurs	District de Ngoma				280.00	x	x	x	x	x	
18	Construction des points de vente des produits agricoles	Gashanda, Rukira, Karemba, Jarama	District de Ngoma				20.00	x	x	x	x	x	
19	Construction de six (6) stations de lavage de Café	Rurenge, Karemba, Rukumberi, Jarama, Mutnderi et Mugesera	Privés				500.00	x	x	x	x	x	
20	Promotion de cultures de rente (Piment, Geranium, Vers à soie, Maccadamia et Moringa)	14 Secteurs	District de Ngoma				235.00	x	x	x	x	x	Plus grande concentration dans le Secteur Gashanda
21	Vulgarisation et transfert des technologies agricoles	14Secteurs	District de Ngoma				150.00	x	x	x	x	x	
22	Organisation et Renforcement de capacité des Coopératives	14Secteurs	District de Ngoma				100.00	x	x	x	x	x	
	Sub-Total						6,379.00						

ELEVAGE														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Amélioration génétique de 10 000 vaches par l' I.A	14Secteurs	District de Ngoma				30.00	x	x	x	x	x		
2	Introduction de 2000 vaches laitières dans le cadre d'une vache /Famille	14Secteurs	District de Ngoma				2,000.00	x	x	x	x	x		
3	Introduction de 140 Boucs race exotique dans le cadre de la production de viande	14Secteurs	District de Ngoma				140.00		x	x	x	x		
4	Construction de 4 centres de collecte de lait	Rukira, Sake, Karambo et Rurenge	District de Ngoma				120.00	x	x	x	x			
5	Construction d'un marché moderne des bétails	Rukira	District de Ngoma				65.00		x					
6	Appui au programme d'une vache par famille	14Secteurs	District de Ngoma				160.00	x	x	x	x			
7	Promotion d'élevage de petits bétail (volaille et lapins) dans les milieux ruraux	473 imidugudu	District de Ngoma				120.00		x	x	x	x		
8	Appui à la promotion de l'Apiculture	14Secteurs	District de Ngoma				100.00	x	x	x	x	x		
9	Promotion de la pêche et pisciculture dans les Lacs Mugesera, Sake et Burira	Mugesera, Sake Rukumberi et Jarama	District de Ngoma											PAIGELAC/MINAGRI
10	Vulgarisation de Technique d'élevage et encadrement d'éleveurs	14Secteurs	District de Ngoma				120.00	x	x	x	x	x		
11	Construction d'un petit abattoir	Kibungo	District de Ngoma				20.00		x					
Sub-Total							2,875.00							

TRANSPORT														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Extension et Réhabilitation de la Gare routière	Kibungo	District de Ngoma				65.00	x						
2	Réparation de la Barque sur le Lac Mugesera	Mugesera	District de Ngoma				30.00	x						
3	Réparation de la route kibaya Gituku (12)	Rukira	District de Ngoma				1,260.00		x	x				
4	Réhabilitation de la route Zaza- Nyange(6km)	Zaza, Mugesera	District de Ngoma				72.00	x						PAIGELAC/MINAGRI
5	Réhabilitation de la route Sake- Jarama (12 km)	Sake, Jarama	District de Ngoma				150.00		x					
6	Réhabilitation de la route Karama- Kirwa (13 km)	Rurenge	District de Ngoma				160.00			x				
7	Réhabilitation de la route Rebezo - Sakara (12,1 km)	Murama	District de Ngoma				150.00	x						
8	Réhabilitation de la route Remera - Kirwa (12km)	Remera, Rurenge	District de Ngoma				150.00				x			PDCRE/MINAGRI
9	Réhabilitation de la route Kazo - Mutenderi (16km)	Kazo, Mutenderi	District de Ngoma				200.00			x	x			
10	Réhabilitation de la route Kansana - Station de lavage (4km)	Gashanda	District de Ngoma				45.00		x					PDCRE/MINAGRI
11	Constriction de la route Asphalté de Kibungo- Rukumberi		District de Ngoma				15,000.00					x		JICA
Sub-Total							17,282.00							

COMMUNICATION														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Installation de deux antennes téléphoniques	Kibungo, Gashanda	District de Ngoma											
2	Constriction de 4 Télécentres	Karemba, Remera, Sake, Gashanda	District de Ngoma				250.00	x	x	x	x	x		
3	Désenclavement des Imidugudu par tuvugane/ Umudugudu	Imidugudu	District de Ngoma				94.60		x					
4	Installation de LAN au niveau d District	Bureau de District					10.00	x						
5	Installation de WAN au niveau d District- Secteur						50.00		x	x				
	Sub-Total						404.60							

ENERGIE														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Extension de reseau électrique au bureau adm de Gashanda	Gashanda	District de Ngoma				100.00	x						
2	Extension de reseau électrique au bureau adm de Jarama		District de Ngoma				180.00						x	
3	Extension de reseau électrique au centre de negoce de Gasetza	Gasetza	District de Ngoma				80.00		x					
4	Extension de reseau électrique au bureau adm de Rukira- Murama	Rukira, Murama	District de Ngoma				150.00		x					
5	Extension de reseau électrique au bureau adm de Mugesera	Mugesera	District de Ngoma				80.00			x				
6	Extension de reseau électrique au bureau adm de Mutenderi	Mutenderi	District de Ngoma				180.00					x		
7	Extension de reseau électrique au bureau adm de Rukumberi		District de Ngoma				100.00						x	
8	Extension de reseau électrique sur la route remera- Rebezo	Remera-Rebezo	District de Ngoma				80.00			x				
9	Eclairage Public Rond- point Hopital		District de Ngoma				40.00		x					
10	Installation d'énergie solaire dans 14 villages pilotes	14 secteurs	District de Ngoma				140.00	x	x	x	x	x		
	Sub-Total						1,130.00							

URBANISME ET HABITAT														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Scème Directeur et Plan de lotissement de la ville de Kibungo	Kibungo	District de Ngoma				1,200.00			x				
2	Plan de lotissement de 14 centres de negoce	14 Secteurs	District de Ngoma				1,400.00				x			
3	Plan d'occupation de 14 villages modèles	14 Secteurs	District de Ngoma				700.00		x	x	x	x		
	Sub-Total						3,300.00							

EAU POTABLE														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Scème Directeur d'alimentation en eau Potable	District	District de Ngoma				750.00		x	x	x	x		
2	Amenagement des sources et adduction d'eau dans 80% de tous les villages	14 secteurs	District de Ngoma				1,000.00	x	x	x	x	x		
3	Plan d' assainissement des eaux usées						550.00			x	x			
	Sub-Total						2,300.00							

METEOROLOGIE														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Réhabilitation de station de Météorologie de Karama	Kazo	Ngoma				45.00	x						
2	Installation des nouveaux dispositifs de la Météo	Sake et Rukira					4.00			x				
3	Réhabilitation de stations Limnimétriques sur les lacs et rivière Akagera						10.00				x	x		
4	Renforcement de capacité						5.00	x	x	x				
Sub-Total							64.00							

ENVIRONNEMENT														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Protection des marais, rivières et lacs						800.00	x	x	x	x			
2	Plan d'aménagement des Forêts						15.00	x	x	x				
3	Reboisement						200.00	x	x	x	x			
4	Promotion de technologie des bois						120.00	x	x	x	x			
Sub-Total							1,135.00							

MARCHES															
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation		
				Etat	Privé ONG	Extérieur		1	2	3	4	5			
1	Construction du marché moderne de Rukumberi			CDF			60.00	x							
2	Construction du marché moderne de Remera			CDF			60.00	x							
3	Construction du marché moderne de Rukira			CDF			60.00		x						
4	Extension du marché de Kibungo			CDF			50.00	x							
Sub-Total							230.00								
Total							35,099.60								

Plan d'exécution : UNITE SANTE														
No	Projet	Localité	Responsable	Source de financement			Investissement total(en million)	Calendrier d'activités					Observation	
				Etat	Privé ONG	Extérieur		1	2	3	4	5		
1	Projet d'Approvisionnement en médicaments, vaccins et consommables	District	Pharm. Dist et CAMERWA	MINISANTE			663.1	x	x	x	x	x		La CAMERWA assurera l'approvisionnement en médicament par la stratégie de distribution active
2	Projet d'achat matériel et équipement médicaux	CS et Hôp Kibungo	District		Intrahealth Twubakane BRALIRWA		141.3	x	x	x				TWUBAKANE va équiper toutes les formations sanitaires et l'hôpital de Kibungo
3	Projet de sensibilisation de la population à adhérer aux mutuelles de santé	District	Mutuelle Dist	MINISANTE	Global Found, PACFA, Intra health Twubakane		276.3	x	x	x	x	x		La BARWALIRWA paie la mutuelle pour les coopératives de cultivateurs de sorgho
4	Recrutement et rémunération du personnel qualifié	fosa et hopital	Minisante et District	MINISANTE ET MIFOTRA			132.4	x	x	x				
5	Projet de renforcement de capacités des agents de santé			MINISANTE	Intrahealth Twubakane		34.68	x	x	x				
6	Projet de renforcement des capacités des équipes PAQ	FOSA	District		Intrahealth Twubakane		41.00	x	x					
7	Projet de Construction de 5 centres de santé	Secteurs de Kazo, Jarama, Karembo, Gashanda, Murama	Minisante et District	MINISANTE ET MININFRAi			884.1	x	x	x	x	x		
8	Projet de réhabilitation des CS et de l'Hôpital de Kibungo	CS de Jarama, Remera, Rukumberi		MINISANTE ET MININFRAi	EGPAP		51.25	x	x					
9	Projet de Construction de 4 postes de santé	Sakara, Mutenderi, Rurenge, Rukumberi	Minisante et District	MINISANTE ET MININFRAi			157.6	x	x	x				
10	Projet d'Achat de 6 ambulances						360.00							
11	Projet de renforcement de la PCIME COMMUNAUTAIRE	Les CS	Minisante et District	MINISANTE	E.I.P		110.5	x	x	x	x	x		
12	Projet d'intégration des services PMTCT/VCT/ARV		Minisante et District	MINISANTE	Global Found, EGPAP, CHAMP, Partner's in Health		110.5	x	x	x	x	x		
13	Projet de renforcement de la stratégies avancées pour la vaccination	Les CS	Minisante et District	MINISANTE	Intrahealth Twubakane		165.8	x	x	x	x	x		
14	Projet de Renforcement des services de PF	Les CS	Minisante et District	MINISANTE	Intrahealth Twubakane		49.73	x	x	x	x	x		L' implication des époux dans le planning familial est primordiale Les leaders d'opinion nous aideront à la sensibilisation Les équipes PAQ sont opérationnelles dans tout le district de Ngoma
15	Projet d'Amélioration de la qualité des services de santé/ Approche contractuelle/PAQ	Hop et les CS	Minisante et District	MINISANTE	CTB, MSH et Intrahealth Twubakane		287.3	x	x	x	x	x		Le personnel est motivé grâce à l'approche contractuelle
16	Projet d'intégration des services de soins de santé primaires ophtalmologiques dans les CS	Tous les CS	Minisante et District				27.63	x	x	x	x	x		Tous les CS intègrent dans leurs paquets la lutte contre la cécité
17	Projet d'intégration du Programme SONU aux sein des CS	Tous les CS	Minisante et District	MINISANTE	Intrahealth Twubakane		10.5	x						
18	Projet d'intégration de service de santé mentale dans les CS	Tous les CS	Minisante et District	MINISANTE			5.00	x	x	x	x	x		
19	Projet de Construction de 26 latrines publiques et installation de poubelles et bacs publics	Lieux publics	District	MINISANTE ET MININFRA				x	x					
20	Projet de Développement DOTs communautaire	Les CS	Minisante et District		Global Found,		132.6	x	x	x	x	x		
21	Projet de pulvérisation intradociliaire	District	Minisante et District		USAID/RTI		1,356.00		x	x				
22	Projet d'Approvisionnement en MII	District	Minisante et District		Global Found, PSI		65.6	x	x					
23	Appui financier aux familles, aux institutions, aux ménages qui assistent les enfants vulnérables, orphelins, enfants chefs de ménages et autres	District	District	MINALOC			27.63	x	x	x	x	x		
Total							1,762.00							

**Comment on the Report submitted by Ministry of Infrastructure, Republic of Rwanda
- Preliminary Study on the Project for Improvement of Kibungo – Ramiro Road -**

In response to the additional questions by JICA, the Government of Rwanda has prepared and submitted the report trying to clarify the justification of the above mentioned project.

JICA has reviewed the project justification based on the report and hereby inform the comments and results to the Rwandan side.

1. Comments to the response from the Rwandan side

Question No.1

Prospective effects of the improvement of the project in light of nationwide trunk road network plan or road investment programme.

Response from the Rwandan side

This road also has strategic importance in providing an alternative route to the Northern Corridor Route (main access to Mombasa) and the Southern Corridor Route to Dar-es-salaam. Moreover, this road will provide a shorter route to the DRC and Burundi instead of the current route via Kigali.

Comment by JICA

Considering the Road Network in Rwanda, we would face the difficulty to recognize that the project road would provide alternative routes to the Northern or Southern(Central) Corridor Routes and shorter route to the DRC and Burundi.

Question No.2

Prospective function of road network formulated by connecting the project road at Ramiro to Kigali-Nemba road and roles of the project road in nationwide road network.

Response from the Rwandan side

(No particular response)

Comment by JICA

Prospective function is not clear after formulation of road network by connecting the project road at Ramiro to Kigali – Nemba road. Improvement of trunk roads radiating from the capital city of Kigali has been almost completed and it is now at the stage of

improvement of roads connecting local cities. The project road is one of those roads, but there is no clear explanation which indicates the importance of the project road among other roads with similar functions.

Question No.3

How to associate the improvement of the project road with rural development along the road or hinterland.

Response from the Rwandan side

A good network of transport infrastructure is considered to be key to development, as it forms tangible communication links to routes of commerce and trade. Similarly, in order for District Development Programmes to succeed there should be efficient road transport infrastructure.

Comment by JICA

There expressed the expectations for the effect of road improvement while explanation of development programme is not concrete enough to justify the project. Concrete and detailed development programme and prospective role of the project road in the development programme is necessary for justification.

2. Conclusion

The conclusion is that it would be difficult to move to the next step such as Second Preliminary Study or Basic Design Study even with additional information by the Rwandan side. In order to move to the next step, the urgency and necessity of the Project should be clarified with the following observations in the future;

1. Increase of traffic demand of the project road triggered by completion of construction of Kigali – Nemba road.
2. More economic activities along the project road stimulated by the increase of traffic demand (e.g. conversion from self-sufficient agriculture to cash crop production and/or activation of products distribution).

End